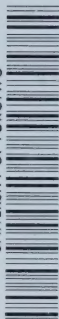


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Lower Fort Garry, Manitoba.

A. D. Coltman.

*By courtesy of "The Beaver".*

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"To live content with small means; to seek elegance rather than luxury, and refinement rather than fashion; to be worthy, not respectable, and wealthy, not rich; to listen to stars and birds, babes and sages, with open heart; to study hard; to think quietly, act frankly, talk gently, await occasions, hurry never; in a word, to let the spiritual, unbidden and unconscious, grow up through the common—this is my symphony."

—*William Henry Channing.*

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# The Journal

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## How to Bolster One's Practice in Times of Distress \*

by DR. FLOYD E. GIBBIN, Buffalo, New York.

IN ANY well defined endeavour, regardless of what it may be, it seems highly commendable that the individual should be anxious to achieve success in his chosen calling. I would like to read you a definition of success that has appealed to me: Success does not necessarily mean the accumulation of much money, nor does it mean a high place in public life. What it really means is the happiness, the joy, the satisfaction and the contentment which come from having done our job well, from having rendered the fullest measure of service, from having measured up to the requirements of our conscience, and having accumulated for ourselves and those dependent upon us a confidence which will make them happy and comfortable, as far as it lies within the power of anybody to be happy.

Now, as we come down to apply that definition to the practice of dentistry, it seems there are many ways in which we might improve ourselves, and to me it seems that the first and most essential thing is for us to have the proper economic concept.

There are two kinds of dental economics—the "Grab" type and the "Give"

type. The man who is concerned solely with how much money he can get from his patient is never going to achieve the highest degree of success in his calling. On the other hand, if he is actuated by an honest, sincere desire to give the highest measure of service of which he is capable, if the best interests and welfare of the patient are his chief considerations, then that man is going to go a long way, for he is going to build confidence in the mind of the patient.

If the patient feels that the dentist is honest and sincere and has rendered the best possible service, she will talk among friends, neighbours and acquaintances along these lines. This will react to the advantage of the dentist.

If, on the other hand, she goes among her circle of acquaintances and talks at great length about the high cost of dentistry, and feels that possibly the dentist has taken advantage of her, that the dollar sign has been of paramount consideration, then the practice is in danger of being wrecked.

In the first place we should approach the problem with the proper economic concept, with the highest degree of

\*Condensed from address delivered before the Ontario Dental Association, May, 1936.

honesty and integrity, and when we have that in mind, naturally any dentist who is alive to his opportunity is going to know what it costs him to produce his services, in order that he may name a fee which is fair and equitable to himself as well as to the patient.

#### STATISTICS

In the United States we had 120 million people in 1925; now we have 127 million. In the year 1920 things were fairly good; it was after the War; it was estimated that only 11 per cent. of our population availed themselves of dental service. Between the years 1920 and 1930 this percentage increased tremendously. It shot up to somewhere between 22 and 24 per cent. There was practically 100 per cent. increase in dental service in the short space of ten years. Why was it? It was due, without a doubt, to the educational activity of the dental profession and of the medical profession, and all the fine work being done in the schools, through the radio, through the press, through the municipal agencies, and through state and federal educational facilities.

On the one hand the demand for dental service is increasing. How about the supply? In the United States we have 67,000 dentists but the supply of dentists and dental schools is decreasing. From statistics gathered by the American Dental Trade Association we find that 15 per cent. of the dental graduates never enter into active practice. We know, further, that the yearly mortality rate is  $2\frac{1}{2}$  per cent. In the year 1930, we had 1,700 dentists who either died or retired from practice; and yet it is estimated that during the good years of 1927-1929, 70 per cent. of the dentists in our country were not working to capacity.

On the other hand, it has been estimated that if the children in the States who are in need of dental care were to

receive it, it would take all the dentists in the country about six years to complete the task for the children under ten years of age.

In regard to fees, I advocate neither low nor high fees, but reasonable ones, not overlooking the purchasing power of our people. Dentistry is of tremendous value to our patients, but, on the other hand, they cannot spend all their money for dentistry.

From the years 1929 to 1933, our national income dropped from 84 billion dollars to 40 billion—less than half in a period of about four years. In the year 1933, only  $11\frac{1}{2}$  per cent. of our total population had an income of over \$10,000. Three per cent. had an income of between \$5,000 and \$10,000. Now we come down to that group of people having an income of between \$2,000 and \$5,000. What an enormous jump there is! Fifty per cent. of our population had incomes in the year 1933, of between \$2,000 and \$5,000, and 45 per cent. had incomes of less than \$2,000. In other words, there are 95 per cent. of our great American public with incomes of less than \$5,000.

Now if we are going to meet our responsibilities; if we are going to put dental service on a basis where it is available to a larger number of people, we must do a lot of things differently than we have done in the past. Our president, last year, made a statement in one of his addresses, that the people with incomes of less than \$2,000 per year buy more than two-thirds of all the goods sold in the country.

On the other hand, as we look at what has been accomplished through the savings of people, we find it is stupendous, especially in the life insurance field. There is over a hundred billion dollars of active life insurance in force at the present time, because it was made easy for people to pay a specified and certain

## FLOYD E. GIBBIN

amount, that they are able to budget and that they can plan.

In the years to come I believe that we shall have to handle those people with smaller incomes differently.

### FEES

If you are going to say to the clerk in the ten cent store, "This is going to cost you \$45.00. You can pay part now and the balance upon completion of the work," you might just as well say \$450.00. You will get it just as soon. The girl hasn't that much money, nor can she get it.

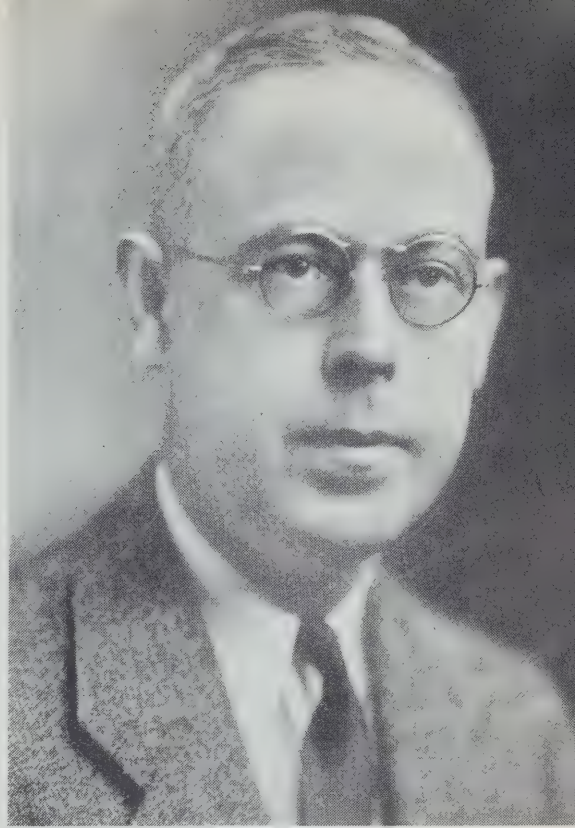
You might say, "You believe in the value of dentistry. Here is what I find needs to be done in your mouth. Now what I would suggest is that we map out a program, and we will make it easy for you to pay for it. We will go ahead with the work which is most necessary first. You can pay so much a week. Now what do you think you could afford out of your salary?" It may be fifty cents a week, a dollar a week, two dollars a week, but the work is undertaken.

Such a plan permits poor people, with small incomes, to have their mouths put into good shape, instead of waiting until times get better, and, in the meantime, having their mouths go to pieces.

There are some things which enter into the successful conduct of a practice about which we hear very little in organized dentistry, and which, I believe, are worthy of serious consideration.

### PERSONALITY

The first thing I would like to bring to your attention is what I like to term "Personality" and "Personal Efficiency."



The Carnegie Foundation, after a very thorough study, reports that in technical lines such as engineering and dentistry, only fifteen per cent. of one's success is attributable to actual technical knowledge, and that the other eighty-five per cent. depends upon personality, and personal efficiency.

Here is a definition of personality which I think is very good: Personality is the way you impress those with whom you come in contact, and that impression depends not upon how much you know, nor upon how much money you have in the bank, but upon the mental attitude and the physical feeling with which you approach them. They may not understand why you impress them favourably. They may not be able to analyze the feeling behind their decisions, but the impression registers in their subconscious minds and dictates those decisions.

What are some of the factors of personality which we believe to be highly necessary in a dentist? I think that the



first one we might put down would be ability to be cheerful, pleasant, agreeable, to learn how to cultivate friends, to make other people like us.

#### PATIENT'S FIRST IMPRESSIONS

The first two minutes in the dental office will tell whether the patient is going to be satisfied with you, whereas it is going to take years, in many instances, to find out whether you are a good dentist, based upon operating skill and ability. The patient may not realize it, may not even give conscious thought to the matter, but during the first few minutes she is in the office, her subconscious mind is being influenced by things that she sees and hears, and by the way in which she is handled by the entire organization—the secretary, the chair assistant and by the dentist himself.

If a dentist has developed the ability of being friendly and making people like him, when patients go out of that office they don't know whether he took out one tooth or four, but they swear by him, and boost for him, and how they boost!

When we go back to our offices after this meeting, let us do this; let us stand out in the hall in the guise of a disinterested spectator and put the searchlight of publicity upon that office and its personnel. How does it affect other people? Stand yourself over in the corner. Don't tell yourself what a splendid fellow you are, but start picking yourself to pieces. What are your bad faults? When you have discovered them, go to work and correct them. And let us also think of the good points, and endeavour to improve and enlarge upon these.

Recently I talked to a man who has built up a large and very profitable business. Here is a thing he said to me: "We must remember that a large amount of business is still done on the basis of friendship."

#### AVOID ARGUMENT

Coming back again to these factors of personality, let us be courteous, tactful and diplomatic, but above all else, and under every circumstance, let us avoid argument. Do you know that six disgruntled, dissatisfied patients, running around a community, knocking, do more harm than a hundred well satisfied patients can do good, for you?

There are many men in dentistry today, who have been harder hit by their own sins of commission and omission in the last five years, than by the depression. You may be the outstanding operator in the Province of Ontario, but if you have failed to develop the ability to get on with your patients, to make them like you to such an extent that they will go out and speak enthusiastically about you, you have failed in the only way that a dental practice can be built.

#### HONESTY AND SINCERITY

Now we come to the third factor of personality, and, really, it is probably of greater importance than any of the others. That is honesty and sincerity. I do not mean to insinuate that dentists are dishonest, but look around for yourselves and you will see, on every hand, so many sins of omission and commission, that when you get right down to pick them all apart, you find it is a lack of the proper degree of honesty and sincerity.

Take dentistry for children as a good illustration. The mouth condition of our children today is nothing short of appalling. Why? Because there is no money in working for children. That is the alibi. In diagnosis, in service for prevention, in teaching our patients the proper methods of home care, the value of periodical prophylaxis and examination—I say that when we know these things and their value to our patients, and fail to explain them in detail, then we are

## *How to Bolster One's Practice in Times of Distress*

dishonest. We are lacking in sincerity to that patient.

### ENTHUSIASM

The next factor of personality which we believe to be of considerable interest is enthusiasm, and an honest-to-goodness belief in the value of dentistry, and what it can do for our patients.

Think of the marvellous scope of valuable service which we may render to our patients! Leave the dollars out of it. Think of what we can do for the public.

The typical explanation of many men in representing certain types of service is: "Mrs. Smith, you ought to have this and you ought to have that. Why? Because I make more money out of a cast gold denture than I do out of a vulcanite one. This is written right on the face and tone of voice of a lot of dentists, whereas, if the principles of honesty and integrity are well founded, and the dentist is entirely sincere in his endeavour to give that patient the best type of service he can, the patient will sense that honesty and sincerity.

One never knows where any patient is coming from, and the financial status of that patient doesn't matter in the least. The class of people I like to get into my office, is the great middle class of people, earning anywhere from \$2,000 to \$5,000 a year.

I get no more from my patients who come to the office with a Cadillac limousine and a chauffeur, than from that great middle class of people, because the wealthy individuals with their social obligations, and so on, disrupt appointments, break appointments, and want instant service. They know that their credit is unquestionable, and they send a cheque when they are good and ready.

The millions and millions of just plain folk all have mouths and all have teeth. They know what their income is, and a large portion of them plan and anticipate,

and, as a rule, those people are less liable to go out and incur obligations which are going to be exceedingly difficult to meet later on.

So, to come back once more, I am pleading for enthusiasm; I am pleading for interest in the value of dentistry. The trouble with so many of us is that, well, it is a way of making a living. We get along but we are not vitally interested.

And the last factor which I believe to be of great value in personality is—Don't be a bluffer but think and act "success."

We have been talking about this factor of personality and it is applicable, not only to the dentist, but to his entire organization.

### ORGANIZATION

The next thing for which I want to plead is growth and development. Look at these figures! 67,000 dentists in the States and only 10,000 dental assistants. Suppose your banker came down in the morning and did the sweeping out, answered the telephone, kept all the books, waited on all the customers, how much of a bank would he have?

Only one out of about seven dentists in the States has a dental assistant. Now, the Lord has given me one pair of hands, and just so many hours in which I can stand up and work at the chair. If I am going to do all these little things it must, of necessity, result in one of two things. Either I must limit my sphere of usefulness in my community, or else I must set a fee for each individual operation higher than it need be, in order to pay my overhead expense, and compensate me reasonably for my effort.

I have two girls in my office. I have nothing to do with regard to the keeping of the books, the purchasing of supplies, the making out of income tax reports, or anything of that kind.

Then there is the laboratory technician—a girl also, and I will stack that girl

up against any dentist in the United States, when it comes to turning out a perfect piece of work.

What is the result? I am not cheapening dentistry; I am producing on a more reasonable basis. I am not cutting prices; I am fitting my service into a greater number of pocket books, and there lies the future of the dental profession.

The trouble is not the high cost of dentistry. It is the high cost of producing dentistry. It costs too much money to produce a completed operation, and that is due to lack of organization. It is due to lack of efficiency and proper facilities for production. We are never going to attain to the highest degree of efficiency until we become sufficiently interested to study every single detail of office routine and administration, and to devise ways and means of cutting down. The time wasted in the average dental office in make-over, in repairs, and in things which should not happen, is far out of proportion.

Let me read an excerpt from an article by Dr. C. N. Johnson, editor of the American Dental Association Journal. He says: "One of the greatest handicaps to success in the practice of dentistry is inefficiency, a failure to function properly and acceptably in our technical procedure, whereby too much bungling is apparent, and too much waste of time is manifest.

"Time is one of the essential entities of a dentist's capital, his real stock in trade, out of which he makes his earnings. Wasted time is therefore a great drag to a practitioner's earning power, and no waste of time is more apparent or expensive than that involved in false motion, or lack of system. While the marvellous development of our technical skill is one of the glories of modern dentistry, and while certain individuals are noted for the precision and rapidity with which they execute their various

operations, we may logically admit that the rank and file of the profession do not perform their every day work with economic profit to themselves, or with noteworthy satisfaction to their patients."

#### OFFICE EQUIPMENT

And along with this efficiency must be adequate facilities for production. I am not asking you to go out and involve yourselves in a large expenditure of money, in ripping your office to pieces, but I am saying this to you, in all sincerity, that there is not an investment open to a dentist that will pay the real dividends that money expended in a good office will pay.

Naturally the office must be in keeping with the character of the community in which you are practicing. You wouldn't want oil paintings, oriental rugs and that sort of thing, in a strictly industrial district. That would be ridiculous, and vice versa. But in your reception room there should be an air of confidence, and of cheerfulness. It should be an easy place in which to sit down and wait.

We would like a business office and a desk for the secretary large enough so that she can sit down and change her mind once in a while. Have a filing cabinet, an adding machine, a good typewriter (one not over fifty years old), one that works every day in the week, and not only on Friday.

The next thing I would like to have, in such a position that all people can see it, is adequate sterilization facilities. Many a good practice has been ruined because some fellow has said, "Well, this old sterilizer will do. She boils and does pretty well."

Here is the greatest post-graduate course you can take. Arrange your affairs so that you can take a few days off, then get your car and start around the countryside to visit about fifteen dental offices—some place where you are not known. Go



in and pose as a hardware salesman or something like that. "You know, Doctor, I am having a little trouble up here. I wish you would take a look." Then draw the fellow out. You are in a position to do so. You are a stranger. Then you begin to find out a lot of things that are wrong in dentistry. I strongly recommend this as one of the most valuable post-graduate courses you can take. What an eye opener it will be! Engage him in conversation. Note his degree of honesty and sincerity, his belief in his profession and in himself. You will, I think, begin to agree that in some of these things I am right.

Then we come to the treatment or the operating room. We would like the position of every single instrument so studied that it is reached with the greatest amount of ease, no hunting around, no lost motion. If we have been out of school a number of years, we should have a second operating room. It is just as necessary as that a car should have four wheels.

If you go back and make a careful survey and study of your office, you will find more time being fooled away and wasted than you had any idea of, and if we are going to progress we must turn that waste time into used time. I have this pair of hands and so many hours a day. I can produce a certain volume of dental service. I have an overhead expense which must be paid, because if I do not pay, it detracts from my prestige as a professional man. It is interesting to note, that even in good times, thirty per cent. of the dental profession were on the C.O.D. list with the dealers. That was away back in the balmy days of 1929. Do you know, that percentage has almost doubled in the last two years, and we go around holding our shoulders up, showing what a marvellous profession dentistry is.

I am asking for an organization. I am

asking for a secretary who has the statements in the mail on the last day of the month or knows she is going to lose her job. The reason we have collection difficulties is about ten per cent. the fault of the patient, and ninety per cent. ours. Why? Because when we start a case we fail to go over and to discuss with the patient what we are going to do, and arrange a reasonable plan of payment which is satisfactory to the patient.

#### CHILDREN'S DENTISTRY

I suppose you know that when you are forty-five years of age, seventy-five per cent. of the population of your country is younger than you are. Yet you go to dental conventions and if there is a paper given on dentistry for children, there is a corporal's guard there.

Your competition in the dentist's work is not the other man down the street. It is the graveyard. Your patients grow old. Seventy-five per cent. of the patients in your town are under forty years of age. In that group is the little toddler, three, four, five or six years of age and up. It is during the months of that intricate stage of transition from the baby mouth to the adult mouth, when the most careful and painstaking care is necessary, when some little thing will cause a major case of malocclusion. But we cannot be bothered because there is no money working for the children. Yet there isn't a practice builder you can name equal to a practice of little children. I don't say little tots, but youngsters under fourteen that really like you, that boost for you. I tell you that is what builds practices. And in how many offices have you ever seen any appeal to the child? Go in and look the places over. They are all for old fogies, forty years old, like I am, and older, who have just come in to get store teeth so they can chew a little longer while they are here.

When I took my office in Medical

Center Building, I had the first playroom anywhere around, put in. They said, "Do you know, you poor boob, you are paying \$2.00 a foot for every square foot?" "Yes, I know it." And I am making more money out of that space than out of any other part of my office? Why? Because I am appealing to the child. Here are magazines, playthings that appeal to children.

Through that playroom and through the special boys' and girls' lending library which we have in my office, many young patients are attracted to the office. Getting along in dentistry is about the easiest thing a man can think of, if you have a bunch of youngsters boosting for you.

Bear this in mind: Seven-year-old Charlie advertises you among his playmates. "My dentist is a great guy. I certainly like him." That is because you are so gentle with him. His mother respects you for respecting her lean purse. She praises you to her friends and don't for a moment think that father doesn't know all about what is going on. Formerly he wouldn't approach you because of your high fees. But now that you have come down to earth, you have found a warm spot on the family hearth, and the old man is coming over to your office to have that tooth filled, and those roots taken out.

Seventy-four per cent. of all the children in the country have never had any attention given to their mouths; twenty-four per cent. have had some work done, and ninety-eight per cent. need dental attention. Only one and eight-tenths have perfect teeth. Two-tenths of one per cent. have had complete dental attention.

What are we doing to maintain those children's mouths in a normal, healthy condition? By and large, we are doing absolutely nothing. Do you know why? I think I know. Because, and it has

become a cardinal sin in my estimation in the last few years, we love to take an impression for a partial denture, shoot it down to the laboratory, and have them do the work while we play golf or bottom chairs, and we want a nine hundred per cent. profit for so doing. In 1912, in the City of Buffalo, we had one commercial laboratory for every 250 dentists, and now we have a commercial laboratory for every 40 dentists. Do you mean to tell me that dental service has increased to that extent? No. I think we are becoming lazy.

#### ADULT DENTISTRY

Now as to our service of prevention for the adult! If we believed in the service of prevention, if we were honest, and if we were sincere and vitally interested in the welfare of our patients, and of everyone who came into the office, we would take a few minutes to discuss with each of them the advantages of the service we have in our office, the value of a periodical prophylaxis, a careful examination, which we believe can cut the cost of dentistry right in two, and more important by far, enable these patients to use their own teeth many, many years longer than they otherwise would do.

If we fail to explain these things and forcibly impress them upon the patient, then we are just downright dishonest with them. There is no question about it at all.

Stephen Gerard once said: "No bank will ever be a success until it first has a president who takes it home to bed with him at night." No dental office will ever be a success until it has a dentist who takes that office home to bed with him at night, who thinks about it, who loves his work, who plans and figures, who analyzes his mistakes and tries to develop and improve upon his good qualities.

There is one more thought I would like to leave with you. You know that nothing of any consequence was ever

accomplished without vision, without interest, without enthusiasm, and we must have these in dentistry.

I would like to read a little thought entitled, "Horizons Beyond": "Lifting his head high above the water, a swimmer sees the full sweep of the horizon where the sky reaches the sea. To him it seems only a stone's throw away.

"High on the bridge over an ocean liner, an officer looks out upon the expanse of the sea and the horizon looks to him six or eight miles away.

"But on a clear night, the pilot of the air mail, looking to the dark world below from an elevation of ten thousand feet sees in one sweeping glance the clustering lights of Cleveland, Pittsburgh and Buffalo.

"There are always new horizons beyond, horizons open to those who climb to the higher altitude to look upon a broader world spreading below."

What may lie beyond our horizons of

today? It is all too common a mistake for a man to fix his gaze on the near horizon, and to forget that anything of value can lie beyond. It is a common mistake to continue measuring achievement by obsolete standards, and to continue to think in terms of absolute finality.

All the streets will never be laid; all the houses will never be built, all the great jobs that stretch to the horizon will never be done, because the horizon keeps eternally lifting to the unreached horizons beyond.

So, let me plead with you, let us broaden our vision, let us extend the dental horizon, let us work and study and observe and climb to the higher altitude, where we can grasp a clear conception of the tremendous possibilities before us in dentistry. Life is service. The one who is the most successful and who progresses the farthest is the man who gives his fellowmen a little more, a little better service.

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## Cancer

### III. SOME FEATURES OF MOUTH MALIGNANCIES

by JOHN W. GERRIE, D.D.S., M.D., Montreal, Quebec.

(Concluded from the December issue of the Journal)

**M**OUTH cancer shows the disease in most of its clinical and pathological variations from the slow-growing, late-metastasizing type predominating in lip growths to the rapidly-growing, early metastasizing type common at the base of the tongue. These clinical and pathological characteristics have a great bearing on treatment and prognosis.

Broders of the Mayo clinic classified cancers into grades I, II, III and IV on

a histopathological basis. Grade I growths show a preponderance of small cells with little differentiation from the parent tissue, low chromatin content and slow growth characteristics. Cancers of this type grow slowly, metastasize late and are resistant to radium irradiation. Grade IV cancers, on the other hand, show large numbers of big anaplastic cells with little resemblance to the parent tissue, high chromatin content and rapid growth



characteristics. These grow rapidly, metastasize early and are sensitive to irradiation. Grades II and III are intermediate. This classification has been widely accepted in the United States and Canada and proved a great help in standardizing the cancer problem and correlating clinical facts with histopathologic findings. By taking a biopsy, examining it microscopically and casting the growth into its respective grouping, one can forecast the course of the growth, type of treatment indicated and its probable response to that treatment. In general grades I and II respond well to surgery and are inclined to be resistant to irradiation. Grades III and IV are sensitive to irradiation, responding dramatically, yet recurrences are common. Surgery is useless and seldom indicated.

Lip carcinomata fall largely into grades I and II. In a series of 449 cases, Broders found 14.92 per cent. graded I, 63.91 per cent. graded II, 20.48 per cent. graded III and 0.66 per cent. graded IV. The growth responds well to a simple surgical excision and in the earliest types a shallow removal of the lesion with surgical diathermy or cautery will act as diagnostic biopsy and removal in one and the same operation. In later cases, a wider V-shaped excision becomes necessary. Such surgery is the simplest expedient and far preferable to tampering with radium which finds the growth resistant, is tedious, prolonged and fraught with the danger of burn. It is most gratifying to see a patient present himself with a potentially fatal lip growth, have it surgically removed and leave the hospital within a week with a small linear scar and an excellent prospect of permanent cure. Results are excellent, New's cases showing 75 per cent. cures for all types and 89.7 per cent. for early cases.

Carcinomata of the tongue presents a different picture, the large percentage falling into groups III and IV. They are

cellular, highly malignant and grow rapidly with early involvement of the cervical glands. In their treatment, the mutilating surgery of the early part of the century has been replaced by irradiation therapy. The growths melt away quickly under its influence but recurrences are common and the neck glands offer complications. Five methods of radium or x-ray attack are in vogue: (1) Needles containing radium element are impaled in the tissue about the growth. The method is traumatizing and painful. (2) Gold filtered seeds containing radon are carried in submentally to surround the base and advancing edges of the growth. This procedure has been highly successful but is expensive. (3) For anterior tongue cancers, plaques of compound or vulcanite can be constructed to approximate the growth and a battery of radium needles or tubes spaced in the plaque. (4) Radium beam or mass radium irradiation therapy is highly satisfactory using a two to four gram unit and cross-firing the growth submentally and through the angle of the jaw. This is done at a distance of about 10 centimeters and tremendous doses up to 50,000 or 60,000 milligram hours can be delivered. (5) X-ray therapy, after a method devised by Coutard in which massive doses are given over a period of three to four weeks, is probably equally successful. Following the application of any of these methods, the cervical glands must be dealt with as they are usually involved, whether involvement is clinically evident or not. This may entail anything from further irradiation to a full bilateral cervical gland dissection. Results in tongue cancer are comparatively poor and run from 20 to 30 per cent. cures.

Cancers of the upper or lower jaws or buccal mucosa occupy an intermediate position anatomically, clinically and pathologically. Involvement of the bone of maxilla or mandible complicates the

picture. Surgery, x-ray or radium irradiation may be necessary. Commonly a combination of all three, using deep x-ray therapy first, followed by electrosurgical removal of the bulk of the growth and, lastly, an application of radium to the tumour base. Neck glands, too, require attention. The ingenuities of dentist, surgeon and roentgenologist are frequently taxed in devising appliances or means of delivering a satisfactory therapy to these growths. Results on the whole are good and 50 to 60 per cent. cures may be expected.

As indicated, the neck glands are a serious complication. In lip cancer they are frequently not involved and a policy of repeated examination may be all that is required. Involvement is the rule in tongue and jaw cancers and some form of irradiation or surgery of the gland bearing areas of the neck is imperative.

Mouth infections play a tremendously important part in the treatment of cancer. Their relation to causation is commonly known and they take an equally sinister role in their effect upon treatment. Irradiation especially, and to a lesser extent surgery, do poorly in the presence of infection. Not only will the irradiation be much less effective but irradiation necrosis of bone is prone to set in

if gingivitis, suppurative periodontal disease or dento-alveolar abscess are present and in the path of the irradiation. This holds true for any cancer of the pharynx, larynx or nasal passages but especially so in the case of cancer of the mouth. Oral cancer is usually seen in dirty, filthy mouths where snags, caries and pyorrhoea are rampant. Time is well spent in cleaning these out and nothing looks so encouraging to the cancer therapist, about to embark on prolonged irradiation as edentulous ridges.

Early diagnosis is probably the most salient point in the mouth cancer problem, and frequently devolves upon the dental profession. Any lump, ulceration, fissure, crack or area of leukoplakia deserves investigation. The anterior pillar of the tonsil, the site of origin of tonsillar cancer, is just behind the third molar. Look at it and have any ulcerative process investigated. If one has not consultation available and is suspicious of a mouth lesion, with the aid of a little local anaesthesia and a sharp scalpel, a piece of the growth can be painlessly removed. Place it in formalin and send it to the nearest provincial pathological laboratory for microscopical diagnosis. Such a procedure may mean the difference between curable and incurable cancer.

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### *Conventions*

ONTARIO DENTAL ASSOCIATION, TORONTO, MAY 17-19 (TENTATIVE)

WESTERN CANADA DENTAL SOCIETY, SASKATOON, SASK.—MAY 31-JUNE 2

CHICAGO DENTAL SOCIETY—FEBRUARY 15-18.

MINNESOTA STATE, MINNEAPOLIS—FEBRUARY 23-25.

AMERICAN DENTAL ASSOCIATION, ATLANTIC CITY, N.J.—JULY 12-16

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH, BALTIMORE, MD.,  
MARCH 13-14.

# A First-Hand Study of Legislative Health Control in European Countries\*

by G. W. CLAPP, D.D.S., New York City.

THE question of sickness, of which dental disorders is one form, presents an extremely important economic problem for the nation. This is of particular importance in the low-income groups, members of which frequently have to face unemployment, idleness and misery.

From the standpoint of the state, the problem of sickness is a matter of vital concern, since the number of the physically and mentally unfit is rapidly increasing. There are one hundred million victims of dental disease in the United States, and something must be done about it.

In the first place, we must arrest and prevent disease. In the second place, we must evolve a program of teaching the people how to live. In the third place, we must reward the professional man to the point where the profession will attract the right type of men. Only in this way can good professional service be made available.

In Great Britain and Europe, leaders have tried to solve this problem by various forms of state dentistry and medicine. At best, this offers but palliative service, such as fillings, extractions, etc. In my trip abroad I did not see a single educational effort that compares favourably with many in this country.

Furthermore, dentistry has been rendered financially unattractive as a profession. In Germany, after fifty years of insurance, the whole professional structure must be reorganized. In England very little future can be seen for private

practice. In France there is an ever-increasing bureaucratic control of the professional man.

## HOW SOCIAL HEALTH ACTIVITIES BEGAN

In Central Europe 300 years ago low-income groups made small payments into a central fund. When unemployed or sick, they drew from this fund. Employers finally contributed also. In 1883 Bismarck set up a health insurance scheme as a sop to social unrest. In 1911-1912, under the leadership of Lloyd George, England set up a somewhat similar scheme for the benefit of the underprivileged.

## LESSONS FROM ENGLAND

When the Health Bill was introduced in England, the medical dealers offered no constructive suggestions but were indifferent to the Bill, which became effective in 1915. Dental service was suggested as an additional benefit in 1921 and became effective in 1926. It was put across largely by the support of non-graduate dentists.

To meet the danger of compulsory insurance plans effectively, it is most necessary that the profession should be well organized and united. Under insurance systems, fee schedules became a necessity. They lead to wholesale deception of the public and trickery among dentists. Service and materials are frequently sacrificed to meet the fee.

In England the middle-class private practice is being driven, by economic pressure, to the level of insurance prac-

\*Presented at the Twelfth Annual Fall Clinic of the Montreal Dental Club and compiled from notes taken at this meeting by one of the audience. Approved by the author.



tice. Education of the public in health matters seems impossible. In the average office serving a highly respectable craftsman class of patient the maximum fee for prophylaxis is \$1.80, for fillings \$1.80, for extractions \$.60 and for partial dentures from \$5.00 to \$13.75.

Under these conditions a filling which requires 10 minutes to insert shows a profit. At 15 minutes the operator breaks even, while at 20 minutes there is a loss. A two-surface filling is not inserted, but rather the tooth is extracted. Service is necessarily prescribed and carried out for the dentist's profit rather than for the patient's good.

#### WHO PAYS AND RECEIVES TREATMENT?

Sixteen to seventeen million employed people, their employers and the state pay towards this service. Actually, only the financially upper 10 per cent. of the insured receive dental treatment, that is, those who can pay half of the dentist's fee. They receive the service because 90 per cent. of the insured who cannot pay half the dentist's fee have paid premiums for them. If 3 to 10 insured persons could pay and demanded service, the system would be bankrupt. Furthermore, insurance fees are falling everywhere slowly and steadily. Dentures are inserted 3 to 6 months after extraction of the teeth. The fee for a full denture is \$13.75, the fee being obtained on the average in four months time. In Austria the fees are one-third what they are in England.

In England the working day is frequently from 10 to 10, 5½ to 6 days a week for 50 weeks a year, an average of 2,700 to 3,000 hours. Compulsory dental service is dragging the dental profession to the level of a mechanical trade. Average net earning from insurance and some private practice seem to average about \$48 weekly.

In Germany there are 10,000 graduate

dentists. Their office expenses run from 40 to 60 per cent. About 100 earn \$4,000 or more net over office expenses; 570 earn \$2,000 to \$2,400 net; 4,300 earn \$750 to \$2,000 net; 2,400 earn \$500 to \$750 net. Forty-seven per cent. of all graduate dentists admitted to insurance practice report their gross income to be less than \$1,000. Taxes are 20 to 25 per cent. of net income. A hopeless element is the fact that there is no professional relationship between the dentist and his patient.

#### A CHALLENGE TO THE DENTISTS IN THIS COUNTRY

Dentistry in this country is facing a challenge, a latent threat long recognized by some of us, which may be turned into the greatest opportunity or the greatest disaster that the profession has ever faced, according to how the problem is met.

We have three courses open to us. First, we can devise and make effective something better than compulsory insurance. This must be done promptly and intelligently. An immense amount of educational work should be carried on at once—a task we should have been engaged in for the last twenty years. Accurate office records are needed. We need more liberal and constructive community activities. If we do this, we can keep dentistry a profession, win esteem and be rewarded as professional men—not just as mechanics.

No! this elevation of the profession is not accomplished by any kind of insurance plan anywhere I have been.

Secondly, we can get inside the compulsory insurance movement and guide its activities. This requires active and continuous political contacts. If we do this, we may be able to protect ourselves against engulfing bureaucracy and keep dentistry a desirable vocation.

Thirdly, we can allow compulsory insurance to be forced on us. We shall

then travel the downward path as is happening in European countries, be politically governed, have our least competent members as officials, be regimented and policed in a manner to which no man in this room would submit willingly. We would suffer steadily diminishing returns, the profession of dentistry would give place to that of a craft, and we would lose what esteem we have as dentists.

#### WHAT WE CAN DO NOW

We can study the economic problem from a dental standpoint. There are three groups of people—the indigent, the insurance income group of people and those above the insurance income.

We should formulate an ideal type of

service for each group. We should provide a policing system to protect the public from the unscrupulous dentist. We should make political and social contacts. We should teach the people what dentistry can do as a means of improving appearance, providing comfort, health, and working efficiency.

We have a wonderful story to tell, and it should be told in a way heretofore not approached. We should tell this story in schools, in magazines, in newspapers, in clubs and organizations of all kinds.

To attempt such a program means organization on a national basis and the whole-hearted support of that organization by every dentist in the land.

220 West 42nd Street.

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## Dental Prosthesis in the Left Bronchus: Bronchoscopy, Removal

by PROF. J. N. ROY, F.A.C.S., Montreal.

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#### CASE REPORT

MISS V. M., 27 years of age, came to Notre-Dame Hospital on Feb. 21, last. She said that the preceding night, about four o'clock a.m., she was awakened by a choking feeling. After her breathing became less laborious, she got up to take a little water, and then felt a sensation of malaise in the left side of the chest. Going to bed again, the patient did not sleep during the remainder of the night. She then noticed that the dental prosthesis she wore the preceding evening had disappeared. This piece, which had hardly been one year in use, had never been solid, and the patient was obliged to remove it off and on, especially at meal

time. Occasionally she was compelled to apply a little cement in order to hold it fast to the abutment tooth.

During the forenoon, she took her breakfast, but was unable to keep it down.

Upon clinical examination of the mouth, I discovered that the prosthesis had been made to replace the upper left central incisor.

I observed a well defined inflammation of the mucous membrane in the rhinopharynx.

The larynx presented a slight degree of hyperemia, but there was no erosion.

I asked for a radiograph, and Dr. Laquerrière located the foreign body in

## *Dental Prosthesis in the Left Bronchus: Bronchoscopy, Removal*

the left bronchus. It was, however, impossible to discern whether the artificial tooth or its supporting metallic crown occupied the inferior position. We can nevertheless suppose that the tooth, being heavier than the rest of the piece, would be below. (See photograph No. 1.)



Figure 1  
*Radiographic aspect of the foreign body*

Upon auscultation, Dr. J. Prévost observed that there existed a parahilar congestive focus on a level with the middle third of the left lung. No sign of atelectasis existed. The right lung was normal.

The patient was then admitted to the hospital, and the following morning her temperature was 101° F. Half an hour before bronchoscopic intervention, a hypodermic injection of H.M.C. (hyoscine, morphine, cactoid) was made.

### OPERATION

Local anaesthesia of the pharynx and larynx with a 10 per cent. solution of cocaine was obtained by means of an atomizer, also anaesthesia of the trachea, 3 per cent. cocaine, with an intra-tracheal

syringe. The patient being in a prone position, her head was forced back on the Haslinger's head rest. I used the Chevalier Jackson's instrumentation. Having discovered the larynx with the laryngoscope, I passed a bronchoscope of 40 cm. in length, by 8 mm. in diameter. The instrument was then inserted in the left bronchus, and I immediately perceived the gold crown of this prosthesis. A flat surfaced forcep was introduced, but slipped off the metal. I then had recourse to Tucker's forceps, and succeeded at once in removing the foreign body, located in the main bronchus, about 4 cm. below the spur. The intervention lasted six minutes. A second direct laryngoscopy permitted me to see that the vocal cords were undamaged.

Postoperative sequelae were normal. The temperature, the malaise in the chest, and the pulmonary congestion disappeared.

The prosthesis measured 17 mm. in length, by 11 mm. in its largest diameter. (See photograph No. 2.)

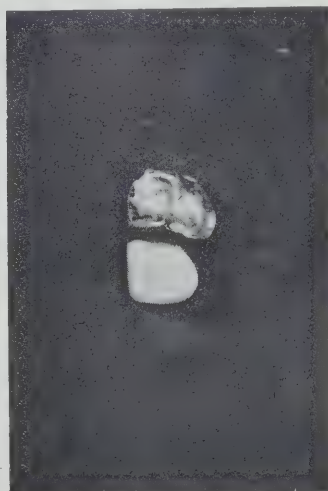


Figure 2  
*Dental prosthesis, natural size*



The piece consisted of a porcelain tooth supported by an opened faced gold crown. This crown was broken at the labio gingival border, and presented cutting edges.

The appliance weighed a little more than two grams.

Intrigued by the fact that the foreign body was lodged in the left bronchus, where from an anatomical point of view, it should rather have been located in the right one, I tried to find the cause. The patient was once again questioned and remarked that she was in the habit of sleeping on the left side. At the time of the accident, she declared that being awakened by a choking sensation, she leaned on the left elbow, and that she kept this position until the laryngeal spasm had disappeared. Being a heavy cigarette smoker, she presented a chronic pharyngo-laryngitis which causes violent coughing from time to time.

This report is interesting for two reasons: first, because of the history of the case, and second, because of the location of the dental piece. It is indeed rare that a person accepts a prosthetic appliance which she must remove now and then, and which she tries to re-stabilize by means of cement. The night of the accident, the patient was, as always, perfectly sober, and it is more than probable that the cough, due to the irritation from tobacco, produced the aspiration of this prosthesis.

In as far as the foreign body in the left bronchus is concerned, we should have found it on the right side, rather than on the left, for the following anatomical reasons that I will now enumerate. The trachea of an adult presents on an average a diameter of 24 mm., the right bronchus a diameter of 23 mm., and the left one of 20 mm. only. Moreover, the spur of the bronchus is slightly inclined towards the left side. If the prosthesis localized itself on this last side, we must

admit the statement of the patient, that is to say that awakening with a choking sensation, she leaned on the left elbow, and that she kept this position until the spasm of the glottis had ended. At this moment, the dental piece, relatively heavy, having been aspirated, slid into the bronchus corresponding to the inclination of the thorax.

Although the radiograph did not show the precise position of the tooth, it was logical to conclude that this porcelain would slide down first, due to its being the heavier portion of the appliance, and due to its smooth surfaces, it would slip along into the left bronchus, carrying with it the metallic support.

In dealing with this foreign body, it was necessary to remove it without injuring, if possible, the vocal cords and the sub-glottis. Also, having introduced the bronchoscope to within the field of the dental piece, I realized that the gold crown with its sharp edges was indeed uppermost. A first attempt with the flat forceps was unsuccessful, due to their slipping off the metal, I then used the Tucker's forceps which allowed me to immediately remove the prosthesis.

During this manipulation I took great care that this prosthesis would remain in direct contact with the bronchoscope, so as not to tear the tissue, especially at the region of the glottis.

We know full well that a lesion of this part can have serious consequences, by producing an oedema, and sometimes necessitating a tracheotomy. In this case it was necessary to exercise even more precaution due to the fact that the irregular and cutting metallic crown was directed upwards.

I do not think it necessary to describe this case at any greater length; I shall simply underline the fact that it is always very dangerous to wear a dental prosthesis which is not solidly fixed to the supporting teeth.

# The Treatment of An Adult Open Bite Case

by A. E. HIGGINS, D.D.S., Toronto, Ontario.

## CASE REPORT

**R**ECENT dental writings contain a number of papers dealing with the treatment of the adult closed bite case, but few upon the treatment of the adult open bite case. A perusal of the literature indicates that the usual methods employed by the orthodontist for the correction of open bite cases are not universally successful in the adult.

The method employed in the case presented may appear to some to be radical, but improvement in aesthetics, masticatory efficiency, and in the patient's attitude toward life, seem to have justified the procedure. (Figs. 1 and 2).

one-quarter of an inch separation of the incisor teeth.

2. Occlusion upon second molars only.

3. Large deposits of salivary calculus which had accumulated during the course of one year about all the teeth, but particularly in the right molar regions, completely obscuring these teeth and extending well over the gingival tissues.

4. Gross neglect of the oral cavity. (Fig. 1).

Other contributing factors to the condition appeared to be:

- (a) Faulty diet.
- (b) Impaired mastication.
- (c) General lack of interest in life.

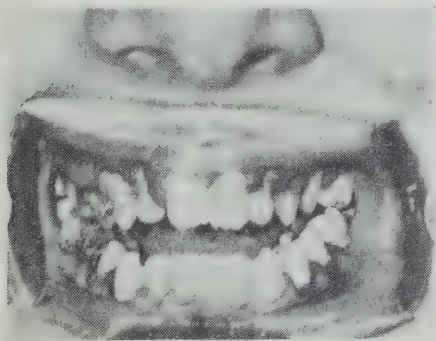


Figure 1  
*Before Treatment.*

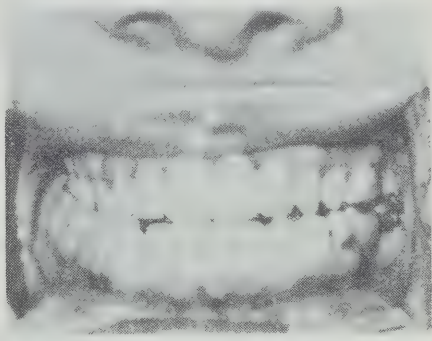


Figure 2  
*After Treatment.*  
(Note improvement in gingival tissue and occlusion)

## HISTORY

The patient, a young lady about twenty years of age, of moderate height 5' 4½", and weight 132 lbs., presented herself on June 26, 1935. Clinical examination revealed the following:

1. Examine vertical dimension in lower third of the face, sufficient to cause

(d) Little attention to oral hygiene.

## DIAGNOSIS

Full mouth intra-oral roentgenograms and casts were made of the case, and the casts mounted upon an articulator for study. As a careful examination of the intra-oral roentgenograms revealed peri-

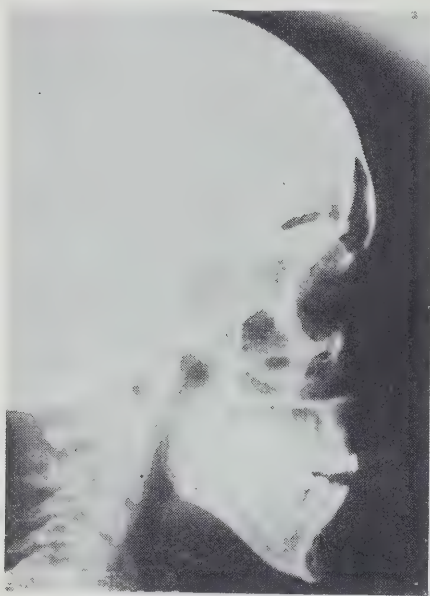


Figure 3

*Profile roentgenogram of patient. Note lack of vertical growth of mandible.*

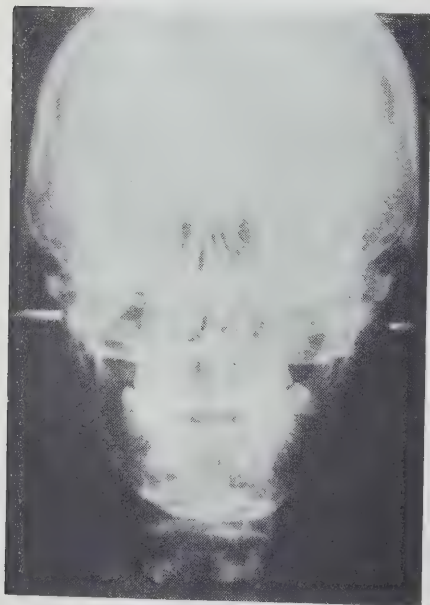


Figure 4

*Antero-posterior roentgenogram of patient, showing deflection of nasal septum.*

apical involvement of the left upper central incisor and left lower first molar, these teeth were to be removed. In addition the enamel of the upper incisors and cuspids was deeply pitted and discoloured by several large silicate restorations. Since no periapical involvement appeared in the roentgenogram, it was decided to use the right central and left lateral as abutments for a porcelain restoration, with a porcelain jacket crown on the right lateral. These could be made longer than the natural teeth, although not quite enough to make contact with the lower incisors.

After a study of the mounted casts, it was apparent that the judicious grinding of the posterior teeth would permit a further closure of the bite. The amount was predetermined, and after grinding the molars on the study casts until the bicuspid were in contact, it was considered that this amount would not be sufficient to cause pulp exposure of any of the natural teeth.

Comment: Had the profile and antero-posterior roentgenograms (Figs. 3 and 4) been taken at this time, the lack of vertical growth of the rami would have been noted, and included in the diagnosis. These were taken, however, after the completion of treatment.

#### TREATMENT

After a thorough scaling of the teeth and prophylaxis, the patient was instructed in the use of a suitably designed toothbrush. Grinding of the occlusal surfaces of the molar teeth, just sufficient to bring the bicuspid into occlusion, was accomplished in two appointments using fine grit wet stones. During the procedure the dentine was exposed in some of the molars, making it necessary to apply formalin to the sensitive areas, which were burnished and polished. Several applications were made, protect-



## The Treatment of an Adult Open Bite Case

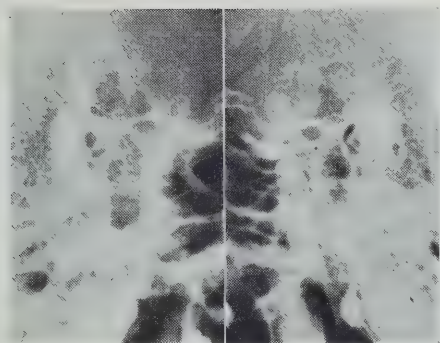


Figure 5

*Roentgenogram of condyles in open position after treatment.*

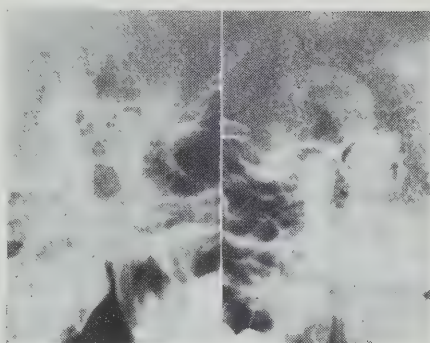


Figure 6

*Roentgenograms of condyles in closed position after treatment.*

ing the gingival tissues from irritation by the drug.

At this juncture a porcelain bridge from left lateral to right central was constructed, as well as a porcelain jacket crown for the right lateral, all of a predetermined length longer than the original natural crowns.

After six months, further grinding of molars and bicuspid was continued to allow the anterior to come into contact when the posterior teeth occluded. (The extra-oral profile roentgenogram [Fig. 3] shows a slight separation in the anterior region due to the further eruption of the third molars.)

All operative work was now completed, including a bridge to restore the extracted left lower first molar.

On March 29, 1936, slight grinding and balancing of occlusion was completed. The corners of the molars were rounded off and the grooves deepened. At this time casts of the case were made and the patient photographed. (Fig. 2).

### RESULTS ACCOMPLISHED

The patient now has a fine, clean mouth; her gingival tissues are healthy; she has good masticating efficiency, and the improvement in appearance gives her a keen delight and a better outlook upon life. There is a possibility, however, that

with the further eruption of the third molars there may be further opening of the bite (Fig. 7), as it was necessary to do a slight amount of grinding of the erupting cusps of these teeth on June 19, 1936. The highly polished surfaces of the molar teeth, which had been previously treated with formalin, have been quite comfortable under the stress of mastication. All the teeth respond normally to vitality tests.

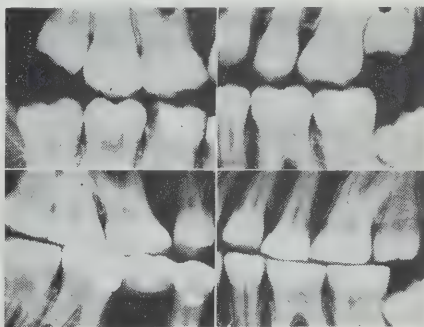


Figure 7

*Intra-oral bite-wing roentgenograms.*  
(Upper taken July 2, 1935, before grinding; lower taken after completion of case, May 14, 1936).

My motive in reporting this case has been inspired by many of those who have seen the case, and particularly by the enthusiastic appreciation of my patient.

12 Bloor St. E.

## Report of the Secretary-Treasurer of the C.D.A.

THE period since our last meeting has, so far as this office has been concerned, again been a period of routine work. Every effort has been made to keep this work as up-to-date as possible, but we have been seriously hampered by our lack of funds. The result is that correspondence has been at times seriously delayed. This only serves to emphasize what will doubtless be said by delegates at this meeting, namely, the necessity for some more adequate provision for the increasing amount of detailed work which goes through the executive office.

We have been very fortunate that so much work has been done at very little expense to the Association by the Dalhousie College stenographers, and I would like to take this opportunity to express our appreciation of the work which Miss Littler and Miss Morash have done. The details of checking up membership, keeping addresses up-to-date, and sending out the membership cards and code of ethics to new members, etc., in itself requires much time every year.

### FINANCIAL STATEMENT

Our financial statement has been audited up to May 11th, 1936. This is rather a peculiar date and, I may say in explanation, that this date of about the first of May, on which our accounts have been audited for a number of years, has arisen due to the fact that my guarantee bond comes due on the 5th of May. I am attaching to this report for your information a complete audited statement from May 1st, 1934, to May 11th, 1936. Our balance on September 30th is \$1,947.07, in contrast to our balance at our last meeting of \$1,185.19. The better standing, in spite of the fact that

we have a new item on our expense account of \$1,608.90 for the Journal, is due mainly to two facts, first, the increased receipts, particularly from Ontario and Quebec, and the fact that our receipts for the current year are more complete than they usually are at our meetings. The only outstanding account receivable for this year is from the Alberta Dental Association. I am not sure at this time what accounts are outstanding, but even without this information, it is possible to draw some conclusions from our financial statement. When it is remembered that approximately \$500 is still due the Journal before the close of this calendar year, you will realize very forcibly the necessity of increasing our receipts even to carry on our present activities.

### MEMBERSHIP

| <i>Province</i>      | <i>Signed and Paid</i> | <i>Paid</i> |
|----------------------|------------------------|-------------|
| Alberta              | 134                    | 200         |
| British Columbia     | 140                    | 200         |
| Manitoba             | 140                    | 247         |
| New Brunswick        | 48                     | 80          |
| Nova Scotia          | 118                    | 176         |
| Ontario              | —                      | 1840        |
| Prince Edward Island | 19                     | 32          |
| Quebec               | 344                    | 912         |
| Saskatchewan         | 175                    | 223         |
|                      | 1108                   | 3910        |

The corresponding figures for 1934 were 950 (exclusive of Ontario) and 2191. This shows a moderate increase of about 160 in our signed membership, and the quite substantial increase of just over 1700 in our paid membership. I am a little disappointed that the increase in signed membership is not larger. Unfortunately we did not keep a definite

## *Report of the Secretary-Treasurer of the C. D. A.*

record, but I know that we sent out hundreds of codes for signature, and probably did not get back more than one in ten. This makes a rather expensive procedure, and I would like an expression of your opinion as to whether it should be continued. All Canadian dentists outside of Ontario must by this time have received several requests to sign the Code. We did not send out Codes to Ontario, as their membership has until recently been on a rather different basis from the other provinces. Now that we are receiving fees from all their members, Codes should probably be sent out to this province as well for signature. We are in shape to do this now so far as the addresses are concerned, but there are not nearly enough Codes available, and a fresh supply would have to be printed.

Membership cards now go out automatically early in the Spring before many of the Dental Conventions meet, to our members of record at the province December 31st. This system seems to be working out very satisfactorily, and it is only occasionally that we have a request for membership cards before they are sent out.

### MEMBERSHIP IN AFFILIATED AND ASSOCIATE BODIES

In the period just passed, we have continued our membership in the Canadian Council and Child and Family Welfare, and the F. D. I. Our subscription to the latter body, which amounted to \$10 in French funds per year, was held up for some time due to the increased cost of the franc, which actually made our membership cost a little over \$16 per year. It was hoped that the franc would be devaluated in line with the other currencies before this bill actually had to be paid; however, it was necessary to pay our subscription this summer before the F. D. I. meeting, so that our delegates would be qualified, and, as you

know, the franc was not devaluated until after this meeting.

### BRITISH DENTAL ASSOCIATION

Our contacts with this body will be more fully covered in another report, and all that I wish to record here is the certificate of appreciation which has just been received, expressing the appreciation of the British Dental Association for the excellent exhibit arranged in Toronto.

### ACCEPTED DENTAL REMEDIES

The Council on Therapeutics of the American Dental Association published a report on Accepted Dental Remedies, which, as you know, constitutes a valued report on the proprietary remedies offered to dentists. They have always been very willing to co-operate with our members, and will pay the same attention to requests for information from our members as from their own members. They asked us if we would take care of the distribution of this book in Canada. This was done, and about fifty copies were purchased by, and distributed to, our members.

### MAIL BALLOTS

A number of ballots were sent out during the period which has just closed. The response of the delegates to these ballots was complete and prompt. A few of the points raised in these ballots might be briefly referred to again.

### INCORPORATION

Some consideration was given to the advisability of at once proceeding with incorporation, and an effort was made to obtain some estimate of the probable cost. This was very roughly calculated to be somewhere in the vicinity of \$200 to \$250, and was postponed for the time.



## *The Journal of The Canadian Dental Association*

### DATE OF MEETING

Several questions were asked on this until the suitable date was arrived at.

### AGENDA AND DATA FOR OUR MEETING

An attempt was made this year to have this material in a more complete form before our meeting here, but it seems very difficult to have these reports in sufficiently before the meeting for our members to have an opportunity to read them. The men who are drawing up the more important reports, which would be the most valuable ones to have in early, are the ones who naturally want to wait as late as possible before preparing their report, so that they will be in as complete a state as possible.

### CANADIAN ARMY DENTAL CORPS

Reference was made in my last report to you of the necessity of re-appointing this committee. This was drawn to our attention by Dr. Moore.

### CHANGE OF CONSTITUTION

The only motion dealing with the change in constitution was one received from Dr. Faulkner, and was forwarded to you.

Respectfully submitted,

(Sgd.) J. STANLEY BAGNALL.

### FINANCIAL STATEMENT OF CANADIAN DENTAL ASSOCIATION,

May 1st, 1934—May 11th, 1936

#### RECEIPTS

|                                |                   |
|--------------------------------|-------------------|
| Balance carried forward.....   | \$1,019.91        |
| Ontario fees .....             | 1,596.50          |
| Nova Scotia fees.....          | 178.50            |
| Interest .....                 | 17.18             |
| Quebec fees .....              | 927.50            |
| British Columbia fees.....     | 343.00            |
| Prince Edward Island fees..... | 32.15             |
| Saskatchewan fees .....        | 223.00            |
| New Brunswick fees.....        | 41.00             |
| Manitoba fees .....            | 123.50            |
| Alberta fees .....             | 100.00            |
|                                | <u>\$4,602.24</u> |

#### EXPENDITURES

|                                                         |                   |
|---------------------------------------------------------|-------------------|
| Bank exchange .....                                     | \$ 4.95           |
| Auditing accounts .....                                 | 10.00             |
| Treasurer's bond .....                                  | 10.00             |
| Delegates' travelling allowances<br>(1934 meet) .....   | 884.92            |
| Stenographic .....                                      | 115.50            |
| Secretary; honorarium and travel-<br>ling expenses..... | 450.00            |
| President; postage, telegrams and<br>stenographic ..... | 72.56             |
| Printing .....                                          | 128.47            |
| Postage .....                                           | 85.00             |
| Stencils and paper.....                                 | 29.13             |
| Canadian Council Child and Family<br>Welfare .....      | 10.00             |
| Legislative committee.....                              | 76.60             |
| Research committee.....                                 | 25.00             |
| Journal committee.....                                  | 1,108.90          |
| State Health committee.....                             | 25.00             |
| Benevolence committee.....                              | 7.15              |
| Box for Sounding Block.....                             | 8.37              |
| Minute book .....                                       | 2.50              |
| Wreath .....                                            | 8.15              |
| Balance carried forward.....                            | 1,540.04          |
|                                                         | <u>\$4,602.24</u> |

J. Stanley Bagnall, Secretary-Treasurer.

Certified correct;  
LLOYD, EGAN & Co.,  
Chartered Accountants.

### *Reprints of Portrait of the late Dr. A. E. Webster Now Available*

We have had printed on heavy coated paper a number of copies of the portrait of the late Dr. A. E. Webster, which appeared in our November issue. These can be had at 50c per copy, to cover cost and mailing of same.

Write to The Journal of the C.D.A.—73 Richmond St. W., Toronto.

# Report of the Committee on Legislation, Canadian Dental Association

(Presented at Montreal, October 12, 1936.)

**Y**OUR Committee on Legislation takes pleasure in presenting its report covering the period from appointment to the present time. For purposes of brevity and clarity it will be submitted under appropriate headings.

## USE OF MAILS TO CONTACT PUBLIC FOR DENTURE CONSTRUCTION BUSINESS

It is unnecessary to review the history of the activities of the Chicago Dental House which under various names engaged in the business of supplying our Canadian people with dentures. Your Committee, assisted by the Royal College of Dental Surgeons and the Ontario Department of Health, spent much time and effort in preparing a case which was presented to Mr. T. P. Coolican, Deputy Postmaster-General. Mr. Coolican congratulated the Committee upon the excellence and completeness of its brief, but suggested that as the use of the mails could be refused only on grounds of fraud, this aspect of the case be strengthened. The Committee gathered further evidence on this point, and this with additional material in their possession, representatives of the Department discussed the matter with the Post Office authorities at Washington, and as a result of this conference, the good will of our own Department and the justice of our cause, the necessary action to refuse the use of the mails to this company was taken. The satisfactory settlement of this matter, which was both national and international in its implications, was most gratifying to Canadian dentists and encouraging to our confrères in the United States, who have been and are waging what will, we hope, ultimately

be a successful war on the same interests. The thanks of the Association are due all those who contributed in any way to the preparation of our exhibits and arguments, to Dr. Ira Hamilton of Ottawa, who made arrangements for the contacts, to Dr. Walter G. Thompson of Hamilton, Director of Dental Services for Ontario, who as the representative of the Department of Health of Ontario was a member of the delegation and spoke on its behalf, to the three dentists who were members of the House of Commons, Doctors O. B. Price, M.P., General J. S. Stewart, M.P., and M. Duguay, M.P., and other members of the Dominion Government who gave us valuable assistance.

Two Canadian agencies attempted to operate a similar business, one in Montreal and another in Toronto. The Legislation Committee co-operated with the Discipline Committee of the Royal College of Dental Surgeons with respect to the Toronto organization and the Royal College of Dental Surgeons succeeded in having the business discontinued.

We got in touch with Mr. Dennis Forest, Registrar of the College of Dental Surgeons of the Province of Quebec, with respect to a Montreal laboratory which was using the mails to sell dentures, requesting that they take action to have the practice stopped. He replied that we would need to secure evidence that the laboratory was actually making dentures. The Committee endeavoured to obtain this evidence, but as the firm did not advertise in Ontario, they were suspicious and consequently unwilling to do business with us. Dr. Cameron can inform the Board with respect to later developments.

Complaint was made that a Toronto

concern was selling through the mails, a dental plug to be used to relieve pain as a temporary filling. The Discipline Committee at our request made a thorough investigation and concluded that the temporary filling would harm neither the public nor the profession. The literature supplied with the treatment stated clearly that the plug served only as a temporary relief and the purchaser should immediately consult a dentist.

#### INCOME TAX

The Committee gave much thought and study to Income Tax exemptions for members of the profession. We held a conference with Mr. C. F. Elliott, Income Tax Commissioner, and reached an agreement which gave to us the majority of our requests. Arrangements were also made for the publication of a pamphlet setting forth in detail the allowances that may be claimed, and giving valuable information with respect to Income Returns. We would recommend that the New Committee on Legislation keep in contact with Mr. Elliott and his Department. We found the Commissioner quite familiar with dental practice and fair and just in his decisions. If we can establish our right to even further exemptions we are sure they will be granted.

#### TARIFFS

Much time and effort was spent in an endeavour to secure a reduction of duty on dental equipment, instruments and supplies. A number of discussions were held with departmental officials at Ottawa and with the Commissioner of Tariff. We, also, had correspondence and interviews with the Right Hon. the Prime Minister, the Hon. the Minister of Finance, and His Majesty's Trade Commissioner F. W. Field.

Your Committee requested a decrease in the duty on equipment and the establishment of a tariff classification to

be known as "Goods used only by dentists in professional practice."

(a) A real attempt was made through the Department at Ottawa, the British Trade Commissioner, the British Dental Association, the Association of Dental Manufacturers and Traders of the United Kingdom, and Canadian Equipment Manufacturers, to secure a reduction of duty on equipment coming into Canada from the United States. The duty being part of the preference given British Manufacturers by the Ottawa Agreements, could only be changed by consent of the British Government. We wrote numerous letters in an endeavour to bring this about but with little success. While in England recently the representative of your Committee had several conferences with the officers of the Association of Dental Manufacturers and reminded them that the Ottawa Agreements would soon be reviewed and it would be advisable for them to come to an agreement that would be mutually satisfactory. A proposition from them will, we feel sure, be submitted shortly to the new Committee.

(b) A letter from Mr. Scully, Commissioner of Customs, states that it has been decided that surgical instruments for use in dental surgery are admissible free of duty under tariff item 476 effective the 1st of January 1936. Although free of duty there is payable the 3 per cent. special excise tax.

(c) Duties on some dental supplies have been lessened due to the Committee and the dealers taking advantage of the Trade Agreement between Canada and the United States and changes in classification.

Representations were made to our Committee urging us to have the Dental Supply Business as carried on by the Canadian Dental Dealers investigated by the Price Spreads Committee. Your Committee was of the opinion that it would be a mistake to do so. In this connection



*Report of the Committee on Legislation, Canadian Dental Association*

we desire to place on record our appreciation of the assistance received from the Dental Dealers as a group, and especially through the secretary, in the preparation of the representations made to Ottawa.

Your Committee discussed with them the wholesale and retail costs of dental supplies and many other matters and found them ever ready to supply information, and when possible make adjustments. There is, however, no doubt that we have too many supply houses and agents and that dentists demand too much service. These are matters your Board might consider.

The Legislation Committee had a conference with the manufacturers of gold solders and other products with a view to having them stamp on the product the actual gold content.

The following letter sets forth the views of the manufacturers on this matter:

GOLDSMITH BROS.

SMELTING & REFINING CO. LIMITED,  
Dundas & Victoria,

TORONTO, March 7, 1935.

Dr. Fred J. Conboy,  
c/o Ontario Dental Association,  
86 Bloor St. West,  
Toronto.

Dear Doctor Conboy:

Answering your favour, wish to say that it has been for many years the practice of all of the larger manufacturers of dental gold solders to indicate the gold quality, in either karats or decimal fineness, stamped on the metal or printed on either envelopes or price lists. Plate golds for crowns and swaged dentures bear the karat quality printed on the containers.

In the case of gold products such as clasp-  
ing plate and wire, also gold ingots intended  
for casting clasps, bars, partials, and inlays,  
the gold content is not usually indicated.  
Failure to state gold fineness on these items  
is not for purpose of deception, but rather  
because desirably physical properties are of  
more paramount interest to the dentists than  
the matter of proportion of gold content.  
To illustrate my meaning, take some examples  
of some imaginary products:

|                     |                 |
|---------------------|-----------------|
| No. 1—70% gold..... | \$1.75 per dwt. |
| No. 2—72% gold..... | 1.70 per dwt.   |
| No. 3—75% gold..... | 1.65 per dwt.   |

Items No. 1 and 2 may contain certain alloyed combinations of platinum, palladium and other metals of the platinum group, all prepared and scientifically tested to make sure of having the requisite physical properties. The salesman of No. 3 would likely feature, in his sales talk to the dentist the higher gold quality, even though the manufacturing cost actually is lower, and the product has such poor working properties as to make it unfit for use.

Manufacturers of dental golds would be unwilling to give complete formulae of all alloys contained in their products. To give gold fineness *only* of certain metal combinations might be the means of leading some dentists and technicians into making incorrect decisions. Please be assured that, notwithstanding opinions as expressed in the foregoing, I am willing to give your Association any co-operation that will be of advantage to you.

Yours very truly,

HERBERT L. NUSSBAUM.

Efforts were also made to secure, through the Canada Mint, gold for dental use at a reduced price and to get a special classification with respect to orthodontia appliances and to have scientific reprints from the United States admitted free of duty. Attention was given to many individual requests and complaints, and in many cases adjustments were made.

The Committee recently gave attention to the present status of the Canadian Army Dental Corps, but after gathering all the information it could glean, concluded that while the present organization is unfair to dentistry, it will need a determined campaign to bring about a change.

The files of the Legislation Committee will be available to the members of the new Committee and they contain information of great value to those who will undertake the work for the coming years. The Financial Statement is as follows:

## *The Journal of The Canadian Dental Association*

### *Receipts*

|                            |         |
|----------------------------|---------|
| 1933, May 5th, Cash.....   | \$25.00 |
| 1934, Nov. 1st, Cash.....  | 25.00   |
| 1935, Nov. 30th, Cash..... | 25.00   |
|                            | —————   |
|                            | \$75.00 |
| Balance on Hand.....       | \$20.65 |

### *Expenditures*

|                           |         |
|---------------------------|---------|
| Luncheon Meetings.....    | \$22.45 |
| Postage and Paper.....    | 16.90   |
| Stenographic Service..... | 15.00   |
|                           | —————   |
|                           | \$54.35 |

We will be pleased to forward a cheque for the credit balance, either to the Secretary of the Canadian Dental Association or the Secretary of the New Legislation Committee, all of which is respectfully submitted.

(Sgd.) FRED J. CONBOY,

*Chairman, Legislation Committee,  
Canadian Dental Association.*

### COMMITTEE

Dr. E. A. Grant, Dr. E. C. Veitch, Dr. Gordon McLean, Dr. C. Angus Kennedy, Dr. T. E. C. Butler, Dr. A. D. A. Mason, Dr. Walter G. Thompson, Dr. W. H. Woodrow.

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## *Relaxation*

*Learn to relax. The European and Oriental have made an art and science of it. The American has made an enigma of it. The ambitious "work while you rest" disciples are continuously after us to utilize our spare time—study German during the lunch hour, literature in between patients, economics before going to bed. Spare time should be wasted, not improved. Get all the sleep you can; stay in bed all day occasionally. Learn to be lazy, to dawdle, to enjoy an empty mind. Then when you are called to effort, you can hit with ten times the power. The more thoroughly you do nothing when there is nothing to do, the better you do something when there is something to do. An hour's labour when we are up to the mark, bright, keen and enthusiastic, is worth four hours' effort when we are fagged. A game of cards or chess or hours spent with optimistic friends means relaxation and time well spent. Exercise in the open for at least one hour daily; an hour spent on horseback riding, playing ball or tennis or golf, a long and aimless walk, calisthenics or a swim in the ocean is not a waste of time.—W. LINTZ, M.D.*

# Control of Dental Caries

by RUSSELL W. BUNTING, D.D.Sc., University of Michigan, Ann Arbor, Michigan, U.S.A.

*The Summary of an address published in the Dental Journal of Australia, October, 1935.*

**A**MONG the established facts are the following:

1. No consistent relationship has been found between the hardness of perfection of the teeth nor of the state of mouth hygiene and the activity of dental caries.

2. No correlation has been demonstrated between the amounts of salivary calcium, phosphorus, chlorides, pH, CO<sub>2</sub> capacity, total alkalinity, total solids or ash and the activity of dental caries.

3. No relationship has been demonstrated between the intake of calcium, phosphorus, or acid-base dietary values and the activity of dental caries.

4. Inherited tendencies or inherent individual characteristics, in a small percentage of cases, are more important determining factors in dental caries than ordinary dietary conditions. A great majority of caries-susceptible individuals, however, can apparently be benefited by the adoption of very simple dietary measures.

5. Evidence is submitted indicating that sugar is a very important consideration in dental caries. A remarkably low degree of dental caries was observed in children on a low sugar diet deficient in calcium, phosphorus and vitamin D. Active caries was induced in children by increasing the sugar intake while they were receiving a diet that was nutritionally adequate. The ingestion of low sugar diets by children, as a rule, is con-

ducive to freedom from dental caries.

6. The most constant differential between caries-free and caries-susceptible individuals thus far demonstrated is that of the relative number of *B. acidophilus* organisms in the mouth. This correlation is approximately 90% positive.

7. An immunologic principle antagonistic to *B. acidophilus* has been demonstrated in the blood of caries-free individuals, in whose mouths, as a rule, *B. acidophilus* does not exist, and when planted therein promptly disappears. The possibility of controlling dental caries by vaccine therapy is suggested.

In the meantime there is an earnest desire on the part of many child health workers to know what practical measures of caries control are of proven value, in order that they may put them into immediate effect for the benefit of the children under their supervision. These, as far as I know, are quite meagre. They consist of (i) repair of carious cavities already formed in the teeth, (ii) mouth hygiene, and (iii) the feeding of simple, uniform, fairly adequate diets in which sugar is reduced to a minimum. An adoption of these measures will not insure absolute freedom from dental disease, but, as has been demonstrated in many large groups of institutionalized children, the feeding of the diet alone will prevent or greatly reduce dental caries in the great majority of children.

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*"But without the slow secret mortification of doing ordinary and mostly trivial duties well, there can be no spiritual advance. Heroism is not a sudden romantic achievement; it is the fruit of years of humdrum faithfulness."*

FROM *"The Life of Father William Doyle, S.J."*



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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM NEW BRUNSWICK:

"How can one best decide as to how much to open the bite for an elderly person who has been edentulous for a long time?"—*James M. Magee, Saint John.*

## REPLY FROM ONTARIO:

In the first place it is a very dangerous procedure to open a bite for elderly patients. It makes them uncomfortable if they have had a closed bite for a long period of time.

If it seems wise, however, to open the bite, here are two methods to use:

1. (a) Measure the distance from the hair-line to the junction of the nose and upper lip. Divide this distance by two. Record this measurement.

(b) Open the bite until the distance from the junction of the nose and upper lip, to the tip of the chin, agrees with the recorded measurement. This should give you the correct registration.

It might be necessary, however, to make some modification in this for the sake of aesthetics and phonetics. The enunciation and articulation of such words as "Mississippi," "ninety-nine," "fifty-five" help to determine whether the bite which seems correct technically is also correct for practicability.

2. After the bite has been taken in normal position with the lips closed naturally—that is, without any strain—soften the bite-blocks and have the

patient close so that the lips are slightly pursed. This should give you the correct registration.—*John A. Bothwell, Toronto.*

## REPLY FROM QUEBEC:

Lacking pre-extraction records, there is no "micrometer method" of gauging exactly, just what the inter-maxillary space of any edentulous patient should be.

Nevertheless, if the operator will bear two, sometimes conflicting, requirements in mind while he is securing a true centric relation, a satisfactory restoration can be expected. These two requirements are an obedience to the laws of physics and an observance of the requisites of beauty. In other words, best mechanical function demands for its foundation parallelism of the opposed surfaces of mandible and maxilla; and good external aesthetics call for a harmonious profile.

Consequently in any given case, if these two requirements are present in the established intermaxillary space, then a correct "opening of the bite" may be assumed.

It frequently happens however that both these desirable conditions do not appear concurrently during the "taking of a bite": it is found that when the ridges are parallel the profile does not have a satisfactory appearance. This problem then presents itself: will function be sacrificed for aesthetics or vice versa? This question can only be answer-

ed by taking into consideration the age and sex of the patient: their preference for appearance or function.

A hopeful spinster of 30 will not even think kindly of you if you do not give her the aesthetics: a man of 55 is more likely to curse you roundly if he cannot handle a steak.

Therefore each operator must make his own decisions for his individual patients.

It is the belief of many, that in elderly people where there is usually very little ridge, the patients' best interests are better served by striving for efficiency rather than by catering to pride.—*I. K. Lowry, Montreal.*

#### **REPLY FROM ALBERTA:**

In a case such as you describe, the mandible has assumed an abnormal position and as a result there has been considerable tissue change in the temporo-mandibular joint. Therefore, it is not advisable from the standpoint of utility and comfort, to attempt to restore the normal interdental space, at first. Better results can be obtained by constructing the dentures to a more closed-bite position, at the expense of the lower. Then later when the patient has become accustomed to wearing and using these dentures, gradually open the bite by rebasing the lower until the normal interdental space is obtained and the patient's face is restored to its proper harmonious relation.—*H. A. Gilchrist, Edmonton.*

#### **REPLY FROM NOVA SCOTIA:**

The question of the desirability of opening the bite in a case which has been edentulous for a long time is too often considered only from one angle, namely, the arguments for so doing. We decide that the aesthetic result will be better, or there will be more room for

the tongue, or other just as valid reason, and then precede to open the bite a quarter, or even half an inch. Clinically, we know that this is often followed by severe pain in and around the temporo-mandibular articulation. We argue to ourselves that since the structures accommodated themselves to the decreased opening they will again be just as accommodating and readjust to the increased opening; an easy way of thinking ourselves out of our difficulties, perhaps, but is this sound?

Text-books and writers on the subject speak rather loosely about changes which take place in the temporo-mandibular articulation, and possibly they do. However, at the moment, I cannot recall any writer paying any attention to a much more important factor, namely, the changes which have taken place during this period of years in the muscles of mastication. Anatomists have been investigating this problem in a general way and they have reached conclusions which are of great importance to us. They state that where the distance between the origin and insertion of a muscle is decreased (as when the bite closes) profound changes take place in the internal structure of the muscle and this is manifested by a decrease in the elastic fibres of the muscle. When these are destroyed they cannot be replaced at a later date and the muscle remains permanently shortened. I think it was Camper who, many years ago, made an observation which was along the same general lines when he pointed out that when the distance between origin and insertion of a muscle was decreased, then wrinkles developed at right angles to the course of the muscle.

If the statement is correct that once a muscle contracts to suit a smaller distance and this persists for a long enough period for these internal changes to take place and can never again be stretched to its

former length we are up against a new problem. The idea is worthy of our serious consideration since it has been made by men who are very careful not to make such statements without what they consider adequate proof. It would appear as if once again we were paying too much attention to the superficial problems of techniques and overlooking the physiological limitations of the structures with which we are dealing.

It may be argued quite correctly that "bites" are often opened radically without undue discomfort. There are a number of reasons for this: (1) The time may not have been long enough for the internal changes to take place which resulted in the permanent shortening of the muscle. (2) The "opening" may have remained within the physiological limits of the muscle. (3) Have any cases which have been perhaps too widely opened and became comfortable in time been accurately studied to see just what did happen? I know of no such studies. We know if we make a denture which is too tight changes take place and it becomes loose. If we open the bite too much pain results and eventually disappears as the tissues accommodate themselves to these new conditions. This means that a change has taken place somewhere, but where? It may have been in: (a) The joint ligaments. (b) The bony structure of the joint. (c) The muscles, or (d) The ridges on which the dentures are placed. Until we understand actually what happens in these cases we are working empirically and are open to criticism.

The inference I would draw from the

above in more direct answer to your questioner is that we should proceed cautiously, say one-eighth inch at a time, until we find the limit our patient can stand. I think we might arrive at this by rebasing the old dentures with modelling compound, in increasing thicknesses, until we establish this distance and then construct our new dentures.

#### REPLY FROM MANITOBA:

In the case of an elderly patient function will of course take precedence over facial harmony but even here some attention to cosmetic effect may be necessary. The procedure will depend on the amount of correction needed and on the co-operation to be expected from the patient. Generally speaking, it is unwise to open the bite at one stage, a greater distance than the working bite space.

This can be repeated as the case dictates, that is, until masticating efficiency has been obtained. The zinc oxide, oil of cloves pastes offer a convenient test means. This correction can, of course, be worn temporarily and changes made as desired, finishing when satisfied with results.

It is well to remember that opening the bite by relining-rebasing a lower tends to retrude it while opening the bite by relining-rebasing an upper tends usually to protrude the uppers. So it is occasionally necessary to reset the teeth on one or both dentures when a thick lining has been used in the relining-rebasing technique. Rarely do old dentures fit accurately, consequently we are not often able to open the bite by raising the teeth only.—H. J. Merkeley, *Winnipeg*.

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*"Just what is modernistic art?"*

*"It's something that proves things are not as bad as they can be painted."*—MEDLEY.



# The Forum

## ● VINCENT'S INFECTION

by ARTHUR H. MERRITT, D.D.S., F.A.C.D.,  
F.A.A.P., New York City  
(Excerpt from A.D.A. Journal, November 1936)

THE following will be found to be a most efficacious mouth wash in the treatment of Vincent's Infection:

Hydrogen dioxide aquae—8 ounces.

Corrosive Mercuric Chloride—2 grains.

Sig.:—Two teaspoonfuls in one-half glass of warm water, used as a mouth wash every hour the first day, and three or four times daily thereafter.

### SUMMARY OF ADDRESS

1. The presence of fusospirochetal organisms is the direct cause of Vincent's infection.

2. These organisms are infectious and may be communicated from mouth to mouth, but, in most cases, the patient is probably self-infected.

3. Vincent's infection may occur in two forms; an acute, in which there is sloughing, pain, rise in temperature, etc.; the other, a subacute type, characterized by inflammation of certain areas of the gingivae, bleeding and sensitiveness. Differential diagnosis in these cases depends on the symptom of tenderness.

4. The first and most important step in treatment is subgingival therapy, cleaning the mouth and teeth as thoroughly as can be done without injury to the gingival tissues.

5. The application of oxydizing drugs directly to the teeth and gums is the logical therapeutic treatment. Of these drugs, there are none more efficient than a 5 per cent solution of chromium trioxide (chromic acid).

6. The arsenicals, when used intravenously, are not of great value as far as local conditions are concerned.

7. Vincent's infection can be largely prevented by the maintenance of a high standard of oral cleanliness and temperance in smoking.

580 Fifth Avenue.

## ● THE FUTURE OF OUR PROFESSION

by DR. BENE VAN RIPPEN, South Africa  
(Excerpt from paper read before the Durban Dental Society)

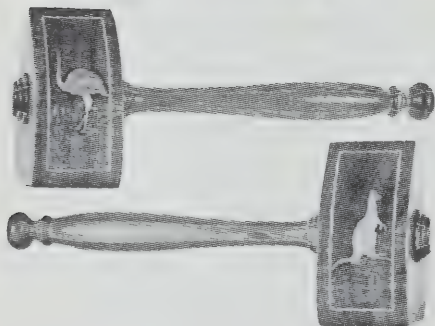
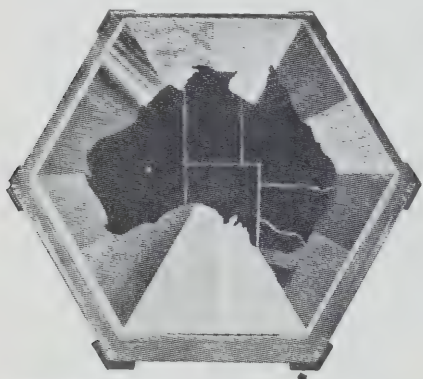
IN the Dutch East Indies we find the "Abonnement" System in vogue, which means that the patient pays a certain per cent of his salary per year to the dental surgeon, who in return agrees to look after the dental welfare of the patient.

For instance, a man has a consultation with the dental surgeon. He is asked what salary he earns, and the mouths of himself and his family are examined. An agreement is reached — say 8% of his total salary. This is paid in advance and the patient can go any time he likes to have advice and attention. The same arrangements are made with the house physician. This relationship of patient and dentist is a good one, and very often the doctor or the dental surgeon calls at the house to see the family socially. Financial security of the fee on one side, and professional service on the other side bring about a very happy relationship.—*South African Dental Journal, October, 1936.*

## ● DENTISTRY IN 1867

MR. HOWARD, Surgeon-Dentist, 52 Fleet Street, has introduced an entirely New Description of Artificial Teeth, fixed without springs, wires or ligatures. They so perfectly resemble the natural teeth as not to be distinguished

from the originals by the closest observer; they will never change colour or decay, and will be found very superior to any teeth ever before used. This method does not require the extraction of roots, or any painful operation, and will give support to and preserve teeth that are loose, and is guaranteed to restore articulation and mastication. Decayed teeth stopped, and rendered useful in mastication.—52 Fleet Street. At home from Ten till Five.—*From the advertising sheet of Dod's Peerage, Baronetage and Knightage of Great Britain and Ireland for 1867.*



*Striking Block and Gavel Presented to the British Dental Association, by the Australian Dental Association.*

The striking block is composed of the following Australian woods: silky oak, crab apple, blackwood, holly, cedar, blackbean, maple, dorrigo pine, walnut, sassafras, jarrah, tulip wood and ebony.



*Presented to the British Dental Association by the Ceylon Dental Association, at the First Empire Dental Meeting, held in London, July, 1936.*

The above illustration represents two miniature replicas of the elephant in the inner shrine room of the Temple of the Tooth at Candy. They were made as a labour of love, and not simply for a monetary consideration, by an artist who had suffered from gangrene of the face and who was thankful that the advance of dental science had enabled him to recover. The elephants were made by hand over a period of several months.

They were presented by the Ceylon District Association, to the British Dental Association, at the First Empire Dental Meeting, as a token of respect and also in memory of the great civilization that Ceylon once possessed.

## ● BARBITURATES

THE barbiturates which are most commonly used for premedication are direct antidotes to novocain, and thus the toxicity of novocain is definitely lowered by them.

It may interest you to hear of an observation which I made during the course of two surgical operations where the patients received an intravenous barbiturate amytal for premedication, then were given local anaesthesia. In one case the thyroid gland was to be removed, and in the other a tumour of the brain. The barbiturate was administered 20 minutes before the local was given. Adequate time was allowed for the local

to act, and yet it failed to do so, entirely revealing the interesting fact that *the effect of the local anaesthetic had been completely annulled by the barbiturate*. This of course does not happen very frequently, but it serves to show how the barbiturate definitely does have an influence on the novocain.

One of the best agents for premedication is the barbiturate known as nembutal. I have found it quite effective and safe. It is put up in capsules of half a grain, one grain and a grain and a half. I have employed it for premedication extensively in the last three years. It may be given by mouth or rectally. *To ensure more rapid action it is advisable to make a pin puncture in each end of the capsule*. Young children do very well with a half grain capsule inserted into the rectum one hour before operation. Adults, one to two capsules orally one hour before operation. — *Excerpt from paper read before the Durban Dental Society by H. Grant-Whyte, M.B., Ch.B., The South African Dental Journal*.

#### ● ARTHRITIS, WITH SPECIAL REFERENCE TO MOUTH MANIFESTATIONS

by PHILIP FINKLE, M.D., New York City  
(Excerpt from A.D.A. Journal, Sept. 1936)

IT IS of importance, in all cases of arthritis, to examine the mouth carefully for clues that might lead to a correct diagnosis. To recapitulate:

1. The association of hyperparathyroidism and arthritis should be borne in mind, and rarefaction of the mandibles, as found on roentgen-ray examination, should be looked for.
2. Marked looseness of the teeth, in the absence of pyorrhea, should suggest myxedema.
3. Evidence of grinding down of the teeth occurs in gout.
4. A smooth glossy tongue should

lead to the suspicion of absence of free hydrochloric acid in the stomach.

5. If the gums are spongy and bleeding, there may be a vitamin C deficiency.

6. Leukoplakia and evidence of scarring of the soft palate may be evidence of a previous infection with the spirochete of syphilis.

7. With a strong light, a careful search should be made for petechiae in the buccal mucous membrane. Their presence might draw attention very early to a subacute bacterial endocarditis as the underlying cause of an arthritis.

#### ● TRANSMITTING INFECTION IN X-RAY WORK

THE most serious danger in x-ray work is that of transmitting infection. There is an unbroken chain in the transmission of bacteria, from the mouth of one patient to another. True, the operator usually washes his hands between cases and at some institutions they wear rubber gloves.

The careful washing of the hands and the wearing of rubber gloves may protect the operator but they are not sufficient to protect the patient. The operator in placing the film in a patient's mouth may transmit the saliva of the patient to the tube when he adjusts it and to the switch while making the exposure. After taking care of the patient he may wash his hands or change his gloves but, unless he washes the parts of the machine which he handled, the saliva is passed on into the mouths of succeeding patients. Many colds and mouth infections are thus transmitted in this free exchange of sputum.—*By Houghton Holliday, B.A., D.D.S., in the New York Journal of Dentistry, September, 1936.*



● BITE-WING FILMS

IN a study of the bite-wing films taken of the teeth of 350 inmates of one of the New York penal institutions, we have re-examined cases at intervals of three months. This has up to the present time furnished us with over 7,000 films. The mouths of the inmates were examined clinically for caries by dentists working without the aid of x-ray apparatus. In one examination 4,464 cavities were found clinically. The bite-wing films revealed an additional 854 cavities which had escaped the clinical examination. In other words 16 per cent of the cavities would not have been detected without the use of the bite-wing film examination.—By *Houghton Holliday, B.A., D.D.S.*, in the *New York Journal of Dentistry*, September, 1936.

● GLANDS AND CHARACTER

IN connection with pituitary deficiency a curious fact has recently come to light which refers to the mineral manganese. This chemical is closely related to the pituitary gland, which it stimulates and regulates. Now when hens are kept without manganese they lose all maternal instincts and care nothing for their chicks or what becomes of them, but as soon as they are given manganese, such is their solicitude for their chicks that they cannot bear them out of their sight. It might be a good thing to try the effect of manganese on some human mothers, to see if it would induce some of them to forsake the cocktail bar, the cigarette box and the bridge table for the nursery.—By *Dr. Leonard Williams* in "*New Health*".



*Cookie teeth are polished up in pantry of St. Francis Hotel for Dentists' Convention. (American Dental Association Convention, San Francisco, July, 1936).*

S-161—Pictures Inc.



PRINCE EDWARD ISLAND



W. T. Waye, Charlottetown

Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

SASKATCHEWAN



F. C. Harwood, Moose Jaw

NOVA SCOTIA



A. W. Faulkner, Halifax

QUEBEC



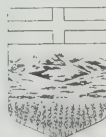
F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

ALBERTA



John Clay, Calgary

NEW BRUNSWICK



J. F. Edgecombe, Saint John

MANITOBA



J. F. Morrison, Winnipeg

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## Dental Economics

"Anyone who has a shilling is automatically interested in economics, and anyone who hasn't is even more interested."

A renowned writer has said "We have come to the crossroads and no one knows the way out". Another has said "The future is very dark. We have reached the twilight of civilization". Many others, also, have added a verse to the chorus "There's a good time coming, but it's ever so far away". It may not be so far away as we think, but be that as it may, this is no time to lay down the oars and wait like Micawber, for something to turn up.

We are told that students are not being attracted to the profession of dentistry as they are to other professions, and that the possible reason is due to the conditions under which dentists are practising today; that mechanics are making the dentures; that public and institutional clinics are caring for many of our citizens; that group practices are able to monopolize the little work there is to be done due to mass production methods resulting from the employing of assistants, nurses, mechanics, etc., and that such should be

discouraged; that if something is not done shortly the hygienist will appear on the scene to still further usurp the prerogatives of the poor dentist.

If the above is the outlook presented, if this is all dentistry can offer to the youth of our land and particularly to our dental students, it is not to be wondered at that fewer young people are choosing the noble profession of dentistry for their life's activity. Why cannot teaching be tempered with the common sense of reality?

When the steam engine first appeared, Ruskin said it would ruin the farmer, because it would do away with the stage coach and, consequently, with horses. When Papin's trial steamboat appeared, it was destroyed by angry boatmen. Later French workmen threw their wooden shoes into the gears to destroy them.

In labour circles today restrictions of output per man are enforced but this is not the solution for our distribution problem. One of the features of many relief schemes in these days is that obsolete methods shall replace mechanical processes as far as possible. Are we going back to the days of Ruskin? Are we to return deliberately to the spade, the axe and the hand-loom? Are we dentists going to be asked to vulcanize our dentures, make our own instruments, clean our own floors, in order that the meagre amount of available work may be more evenly distributed? Most assuredly not!

The medical practitioner writes a prescription, the druggist fills it; he desires a blood count and his assistant, if capable, can make it; he requires an x-ray picture or a vaccine and the laboratory meets his requirement. His trained nurse relieves him of responsibilities which the hygienist never dreams of in her service to the dentist.

If he enjoys group practice, every facility is offered. Who would denounce the Mayo Clinic with its four hundred doctors and hundreds of nurses and assistants?

What is needed in dentistry is a revised vision, a new orientation. If only half of the dental work which is required to-day was being done, the dentists would be swamped with work, which would mean millions of dollars annually in the bank accounts of our profession. This stimulus could best be given through a properly organized, national dental body.

Under conditions such as should exist and would exist if we were fully alert, minimum fees would take care of themselves. Who would worry about the public clinics? Men would see the advantages of group practices and our schools would encourage rather than discourage such organizations. The dentist of the future must have all the help possible to produce his service so that his remuneration will be commensurate with the years of toil and the expense involved in securing his education.

The University Relations Committee of Minnesota, points out that in that State, two years ago, there was spent per capita \$3.06 for dentistry, \$7.80 for hard liquor and \$2.93 for the movies.



## Editorial

The Medical-Dental Service Bureau of Washington, D.C., recently published a chart showing the comparative cost of medical care with non-essentials. It showed that the annual expenditure of the average family in the United States was \$150 for automobile, \$67 for tobacco, \$37 for candy, \$37 for gasoline, \$35 for theatres, \$34 for soft drinks and ice cream, \$29 for jewellery and other articles, while only \$24 was spent for medical service. Fishbein, in a radio address, said that \$25 per person was spent for radios, musical instruments and saxophones.

It is not uncommon for a stenographer earning fifteen dollars a week to spend three dollars a month for shampoos, finger waves and permanents. Surely she could afford one or two dollars a month in order to ensure having a healthy mouth condition, thus guarding her health, happiness, comfort and appearance. In a survey of this problem entitled "A Practical Analysis of Regular Dental Prophylaxis" by the writer, appearing in the Journal of the American Dental Association, January, 1933, it was stated that in analyzing the dental services of 765 patients, ages from 5 to 81, who had been on our prophylactic list from 2 to 17 years, 70 per cent of all of these patients paid a total fee of slightly above or slightly below \$1.00 a month over the period of years that they were on the prophylactic list.

No, the problem is not entirely one of finance so far as dentists are concerned at the present time. It is one of making the people tooth conscious, of making them realize that dental health is much more to be desired than all these non-essentials, of placing dental health upon a competitive basis with the luxuries and superfluities of everyday life. It is also a problem of rendering these patients who do become tooth conscious and seek our services, adequate results, at a fee that is fair both to themselves and to the dentist. As Dr. Gibbins points out in his excellent paper appearing in this issue of the Journal, this can only be accomplished by careful study and thorough organization.

The responsibility for care of the indigent is the government's, not the profession's except in so far as the profession should seek to direct this work. The problem of dental health can be met in every community with proper provincial and federal aid, and this will come if the profession educates the public to its needs.

Dentists must convince the public, and the public officials, of the importance of dental service. Now is the time for an intensive campaign to encourage those who can afford dental service to seek it, and to make our governments understand this problem. Now is the time to take stock of our methods and procedures, and to plan to produce these services on a practical and economical basis. This is no time to curb our public clinics, dismiss our assistants and vulcanize our own dentures.

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*"To float with the tide is a feat which any dog can perform."*—DEAN INGE.

## BOOK REVIEWS

**Essentials of Oral Surgery**—by Vilroy Papin Blair, A.M., M.D., F.A.C.S., Professor of Clinical Surgery in the School of Medicine and Professor of Oral Surgery in the School of Dentistry, Washington University, St. Louis, and Robert Henry Loy, M.D., D.D.S., F.A.C.S., Professor of Maxillo-Facial Surgery in the Graduate School of Medicine and Professor of Clinical Maxillo-Facial Surgery in the School of Dentistry, University of Pennsylvania, Philadelphia; and with the collaboration of James Barrett Brown, M.D., F.A.C.S., Associate Professor of Clinical Surgery in the School of Medicine, Washington University, St. Louis.—Second edition, 606 pages, 445 illustrations, cloth \$7.00. Published by the C. V. Mosby Company, St. Louis, 1936. The Canadian agents are McAinsh and Company Limited, Toronto.

This excellent treatise on Oral Surgery by these noted authors brings up to date the recognized advances that have been made in the surgery of the mouth and jaws. The order in which the different subjects are dealt with has been changed to a certain degree to improve the value of the work as a student's textbook. Dr. V. H. Kazanjian of Harvard University has supplied a new chapter on surgical preparation of the mouth for artificial dentures.

The authors have succeeded in making this text an excellent guide in surgery to the dental student as well as an invaluable reference work for the general dental and medical practitioner. Furthermore, the work conforms as closely as possible to the recommendation of the Curriculum Committee of the American Association of Dental Schools as to the content of a course in oral surgery.

The greatest attention is paid to the recognition of surgical conditions of the mouth and jaws with few details of the technique of major surgical operations.

The dentist is not expected to undertake major surgical operations but on the other hand there are many less serious surgical procedures which come directly within the scope of the dentist and these receive detailed attention in this publication.

The book is well printed on fine coated paper and the many illustrations are very clear and instructive. The reviewer has no hesitancy in saying that this is a text that should find its way, not only into the hands of every dental student, but into the libraries of every dental and medical practitioner who deals with surgical conditions of the mouth and jaws.

W. H. S.

**Dental Pharmacology and Therapeutics**—by J. R. Blaney, B.S., D.D.S., M.S., Professor of Dental Pathology and Therapeutics, University of Illinois, College of Dentistry. Second edition, 340 pages, illustrated. Cloth \$4.50. Published by The C. V. Mosby Company, 1936. Canadian agents: McAinsh & Company, Limited, Toronto.

The object of this book is to present a concise discussion of the drugs of interest to the dental practitioner and not a comprehensive dissertation on the science of pharmacology. The book is not intended to be used as a detailed reference but rather as an aid to the student and practitioner in the solution of their problems.

Part one (40 pages) deals with general considerations, methods of administration of drugs, prescription writing, weights and measures,

incompatibility, etc. Part two (246 pages) gives a detailed discussion of drugs arranged according to their chief dental uses. In this second edition the dyes, which have been growing in popularity, have been added to the chapter on "Antiseptics." Part three (24 pages) is of especial interest to students and deals with directions for laboratory work in pharmacology. An appendix gives aids for the treatment of acute poisoning.

Students of dentistry should find this work very helpful, and practitioners, especially those who have been away from college for several years, will find it conveniently concise in bringing this department of their studies up to date, and perhaps it will remind them of many useful drugs they have neglected.—Kenneth M. Johnson.

## NEWS FROM THE PROVINCES

### QUEBEC:

#### Annual Meeting of Montreal Dental Club

The thirty-ninth annual meeting of the Montreal Dental Club was held on December 15, last, at the Montreal Hunt Club, seventy-five members being tendered a complimentary banquet by the club. The retiring president, Dr. Saunders, was in the chair and after the toast to the King and the reading and adoption of the various reports, he welcomed the new president, Dr. D. D. MacDonald, to the chair. Dr. MacDonald conducted the election which followed and announced the 1937 officers to be: Hon. president, Dr. F. W. Saunders; president, Dr. D. D. MacDonald; president-elect, Dr. C. H. Barr; secretary, Dr. C. R. Sellar; treasurer, Dr. F. A. Edward; executive committee—Drs. R. E. McMahon, J. K. Carver, R. B. Bell, J. W. Morton, J. W. Abraham and R. C. Thompson.

After the close of the business meeting, the members adjourned to the game-room where good fellowship reigned supreme.

#### Mount Royal Dental Society

Dr. James Coupland, of Ottawa, was guest clinician at the December meeting of the Mount Royal Dental Society, held December 8 in the Mount Royal Hotel. Dr. Coupland chose as his theme, "Dental X-rays and Their Interpretation".

A record attendance listened to the speaker as he outlined the various factors which together make for a good radiograph.

The clearness, simplicity, as well as the profoundness with which the lecturer treated his subject was keenly appreciated by the membership.

Especially impressive were the radiographs projected on the screen. The speaker showed films depicting various pathological conditions which are not usually seen in the average radiograph, unless resort is made to special angulation.

A vote of thanks was moved by Dr. G.

Franklin, who urged the executive to prevail on Dr. Coupland to return on a future occasion as lecturer to the Society.

Dr. M. Toker, president, was in the chair.

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#### Montreal Dental Nurses and Assistants Association

On November 2, the association met in its clubrooms to listen to an address by Dr. D. D. MacDonald, president-elect of the Montreal Dental Club, upon the "Delinquent Debtors List" operated by his club. Dr. MacDonald explained the part he expected the nurses and assistants to play in keeping this list active and up-to-date and also the aid they should expect from such a list. His address was well received and co-operation was pledged.

This address was followed by the showing of a travelogue picture by Mr. Fred Lydon of the Canadian Pacific Railway Company.

The members were entertained on November 17 by Allen & Rollaston Limited in their laboratory. The laboratory was in full operation and those attending were privileged to see many prosthetic cases carried to completion.

Mr. S. S. Bardsley of the St. Johns Ambulance Corps spoke to the club on the evening of December 8. His "First Aid" lecture and demonstration was so well presented and received with so much enthusiasm that the question period following the lecture was one of the most lively the club has witnessed.

### BRITISH COLUMBIA:

#### Amendment to Dentistry Act

The amendment to the Dentistry Act, November 1936, is a most important item of interest in British Columbia. The Council has now attained the objective on which it has been working for years, an act which is comparable to that of any in Canada. The members of the College of Dental Surgeons of British Columbia are proud and grateful to their Council for its splendid achievement.



## *The Journal of The Canadian Dental Association*

### **Pacific Coast Dental Congress**

British Columbia will be host for the 1938 meeting of the Pacific Coast Dental Conference, the initial meeting of which having already been called by President W. J. Lea, of Vancouver. With the high standard set by former meetings as an aim, British Columbia hopes to present a program, under the leadership of Dr. W. J. Bruce, which will attract the dentists of Canada. This international meeting will have many features to offer which are not found in local society meetings. Remember also the wonderful scenic background and decide now to make 1938 "Your British Columbia Year."

### **Health Plan Delayed**

Officials of the British Columbia Government state that thousands of the questionnaires sent out, asking individual employers and employees for information concerning income and other matters have not been returned, with the result that insufficient data has been collected, and the government has despaired of putting the Act into operation at the beginning of 1937 as had been planned.

There are 200 firms who have reported that they have private insurance schemes in operation covering some 45,000 employees. Of about 100,000 eligible employees, less than 60,000 have sent in replies.—*Financial Post*.

### **SASKATCHEWAN:**

#### **Dental Council**

The annual meeting of the Saskatchewan Dental Council was held recently in Yorkton, when Dr. W. W. Irwin, Moose Jaw, was appointed president and Dr. D. J. Brass, Yorkton, vice-president. Dr. L. J. D. Fasken was reappointed as secretary-registrar. The other members of the council are Dr. A. J. Brett, Regina; Dr. J. C. King, M.L.A., Humboldt and Dr. P. W. Winthrop, Saskatoon.

#### **Moose Jaw**

The Moose Jaw Dental Society held its monthly supper meeting in the Grant Hall

Hotel, December 9, with the president, Dr. W. J. McCauley, in the chair. Routine business and plans for the winter were discussed. A new member was introduced in the person of Dr. Alex Lanley, who recently came to the city to practice.

### **Regina**

The many friends of Dr. L. J. D. Fasken, Regina, the very efficient secretary-registrar of the Dental Council of Saskatchewan will be glad to learn that he has recovered from his serious illness and is back in harness again.

### **MANITOBA:**

#### **A Unique Occasion**

One hundred members of the Manitoba Dental Association were present at a complimentary banquet in the Fort Garry Hotel, Winnipeg, on Tuesday, December 8, given in honor of Dr. Fred E. Warriner, the newly-elected mayor of the city of Winnipeg.

The meeting, which was held under the joint auspices of the Winnipeg Dental Society and the Manitoba Dental Association, was presided over by Dr. Pat. Gallagher and was addressed by Dr. W. T. Taylor, a classmate of Dr. Warriner's; Dr. E. L. White, president of the Manitoba Dental Association; Dr. Howard Geddes, president of the Winnipeg Dental Society, and Dr. M. H. Garvin, with whom Dr. Warriner has been professionally associated for over twenty years.

Dr. Warriner, in responding to the toast to his honour, proposed by Dr. Taylor, asked for the co-operation of all present to unite with him and all citizens who have the best interests of the city at heart, in his efforts to make Winnipeg a better place in which to live. A pledge to this effect was unanimously carried by a standing vote.

### **Winnipeg Dental Society**

The well-attended December meeting of the Winnipeg Dental Society was addressed by Dr. Manly Bowles, who limits his practice to orthodontia. Dr. Bowles gave a very interesting and comprehensive paper on helpful hints

## News from the Provinces

for the general practitioner who is compelled to include orthodontia in his practice. The address was well illustrated by lantern slides of cases culled from Dr. Bowles' extensive experience. We may add that any dentist in general practice who wishes advice about an orthodontic problem need not hesitate to write to Dr. Bowles who is always happy to be of help to his brother practitioner.

### ONTARIO:

#### In Memoriam Resolution of Ottawa Dental Society

The members of the Ottawa Dental Society wish publicly to express their sorrow at the death of their friend and teacher, Doctor Albert Webster, and with that end have passed the following resolution:

"That the loss of an educator so zealous in the cause of dentistry, so warmly human in his devotion to the best interests of his students and fellow-practitioners, so distinguished in his far-reaching influence upon the standards and ideals of scientific dental education is irreparable to the profession of dentistry."

Moved by Dr. Sydney W. Bradley.

Seconded by Dr. George O. Hutchison.

#### Tribute to Dr. A. E. Webster London Dental Society

Whereas, it has pleased Almighty God to call to his eternal rest our friend and colleague, Albert E. Webster, who by his sterling character endeared himself to us individually and as a body and Whereas we, the members of the London Dental Society, do hereby express our deep sense of sorrow, and loss at his departure, whose long suffering was borne so patiently and cheerfully, and Whereas we believe that to know him was to love him and that our thoughts might be expressed by the following words: he has achieved success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of little children; who has filled his niche and accomplished his task; who has looked for the best in others and given the best he had; whose life was an

inspiration; and whose memory is a benediction. Therefore, be it resolved, that this resolution be spread upon the minutes of this organization and a copy thereof be sent to his wife as a testimony of our sympathy and condolence.

Signed: D. J. FERGUSON,  
President.

#### Resolution of London Dental Society

The following resolution was passed by the London Dental Society:

"Whereas The Canadian Dental Association has made all arrangements for the publication, under its auspices, of a National Dental Journal to be known as The Journal of the Canadian Dental Association, and

"Whereas, Canadian Dentistry has never, until the present time, owned and controlled a professional Journal, and

"Whereas, the influence of such a journal, in building up and improving the organization known as The Canadian Dental Association, is of very considerable importance, and

"Whereas, the publication of such a journal will add greatly to the usefulness of the national body,

"Therefore, be it resolved that the London Dental Society go on record this 10th day of November, 1934, as approving and endorsing the project of a national journal sponsored and controlled by the Canadian Dental Association."

#### London Dental Society

A meeting of the London Dental Society was held Saturday, December 5. Dean Arnold D. Mason of the R.C.D.S. addressed the society on "Diagnosis and Treatment Planning."

At this meeting the following resolution was passed: "Moved by Dr. J. O. McCutcheon and seconded by Dr. Hayden that the Journal of the Canadian Dental Association be adopted as the official journal of the London Dental Society."

Life memberships were presented by the society to Dr. S. Woolverton, Dr. C. H. Ziegler, Dr. W. S. Westland, Dr. S. P. Reynolds and Dr. O. T. Cunningham.

## *The Journal of The Canadian Dental Association*

### **Tribute to Dr. A. E. Webster**

Academy of Dentistry, Toronto

Albert E. Webster, D.D.S., M.D., M.D.S., late of the city of Toronto, was the first Honorary Life Member of the Academy of Dentistry, this honour having been conferred upon him four years ago in appreciation of his valued services and his contributions to his profession. As Dean of the Faculty of Dentistry he won the confidence of those who came under his guidance, and in his later years assumed the role of Patriarch to those younger in years and experience, who, by his friendly interest and helpful counsel, were encouraged and guided in their work. He made a valuable contribution to his profession as Professor of Operative Dentistry at the Dental College. He was a good teacher, a wise counsellor, and a helpful friend.

By reason of the high esteem in which Dr. Webster was held by the members of the Academy of Dentistry, it is our wish that an expression of our deep regard, and our sorrow at his passing, be recorded.

Be it therefore resolved, That the members of the Academy of Dentistry hereby express their deep sorrow upon the death of Dr. Albert E. Webster, and request the president of the Academy, on their behalf, to convey to Mrs. Webster, and the members of his family, their feeling of great loss and sincere regret.

Respectfully submitted,

CHAS. MCLEAN (*Mover*),

H. W. HOAG (*Seconder*).

Unanimously carried by a standing silent vote of the Fellows, at the First Stated Meeting of the Academy, November the eighteenth, nineteen hundred and thirty-six.

### **Academy of Dentistry**

November 10 was clinic night on the program of the Academy of Dentistry, Toronto. The following members gave demonstrations:

Dr. J. M. Sheldon—Procedure in making porcelain jacket crowns.

Dr. H. Mercer—Stunts in making porcelain inlays.

Dr. Ross Thomas—How to sharpen instruments.

Dr. P. G. Anderson—An indirect method of making gold inlays using investment models. He used Ransom and Randolph grey.

Dr. Irving Ante showed interesting developments in production of the glass denture base.

Dr. Henry Thompson—Splints to open bites.

Dr. Roy Hendry and Dr. "Holly" Halder-son—Orthodontia diagnosis and practical appliances, respectively.

Dr. Flora Cowan—Care of a fractured permanent incisor for a child.

Dr. Crich—Technique in local anaesthesia.

Dr. Geo. Morgan had a great number of radiographs demonstrating pathogenic conditions as found in the oral cavity. These were exceptionally good from the standpoint of aids to diagnosis.

Dr. C. T. Moyle, of Hamilton—Demonstration of x-rays and diagnosis.

Dr. Kreutzer, Dr. Marsh, Dr. Hoag, and Dr. Spinks, of Hamilton, had some very fine models demonstrating their use in visual education.

Dr. Spinks, of Hamilton, had a number of series models which had considerable educational value.

Dr. S. A. MacGregor gave a lantern slide lecture on dentistry for children. This was excellent and demonstrated the value, as well as how to do, good dentistry for children.

Dr. Frank Cole showed a motion picture on "Education of the denture patient."

Dr. T. L. Marsh gave a splendid demonstration on the value of color photography in visual education.

### **Public Dental Health Nights in Hamilton and Toronto**

November 17 and 18 were Public Dental Health nights for Hamilton and Toronto societies, respectively. The guest speaker was Dr. Walter E. Briggs, of Attleboro, Mass. Dr. Briggs brought with him a great collection of models and charts around which he centred his lecture. The models and charts were a liberal education in themselves, demonstrating what can be done by visual education. Dr. Briggs championed the value of visual education, intimating that people remember only



20 per cent. of what they hear but 80 per cent. of what they see.

The essayist had quite a number of series models to demonstrate the progress of dental disease and emphasize the good sense of early treatment of even the smallest defect. Dr. Briggs prefaced his discourse by intimating that pre-natal care of the child was usually in the hands of the obstetrician, and that early post-natal care (until three years of age) was in the hands of the pediatrician or family physician. The earliest the average child comes to the dentist is three years of age, and at this point it is the dentist's task to control dental disease and abnormalities. It might be suggested that this idea conveyed by "control" is preferable to "prevention." Absolute prevention is impossible, but control is within the reach of dental science providing meticulous care is exercised in the examination and early treatment instituted; where the smallest defect is found. No cavity is too small to fill.

Two posters impressed the writer very much.

1. Dentistry for children is a health service. Success depends on—

- (a) Early detection and care of pits and fissures.
- (b) Systematic and periodic attention.
- (c) Co-operation from the home.
- (d) Full recognition of the relation to "General Health."

2. If 92 per cent. of children have defective teeth will they be physically fit at 21?

Dr. Briggs' entire message seemed to convey the thought that dentists were not only skilled technicians but were dental physicians, charged with the care of the oral cavity, having a full knowledge of the effects of oral disease and disfunction on the general health of the individual.

Dr. E. A. Grant of the Department of Health, Toronto, Dr. John Phair of the Department of Health of the Province of Ontario, and Dr. Fred Routley of Canadian Red Cross, contributed to the discussion of Dr. Briggs' paper in Toronto.

In Dr. Routley's remarks, he said, "If every dentist in Canada were the same sort of missionary as Dr. Briggs the problem of prevention of dental disease would be solved." Again he said, "Health measures instituted in

children will live on through adult life, and by their influence for generations to come."

In Hamilton, Dr. Harry S. Thomson, Field Secretary for the Canadian Dental Hygiene Council, was among those who contributed to the discussion. It was a unique occasion because Dr. Thomson was not only vitally interested in Dr. Briggs' presentation, but also he had the distinction of being a fellow alumnus with Dr. Briggs at Tufts College.

During the meeting at Toronto, Dr. Charles McLean and Dr. F. L. Dayment presented a resolution expressing regret and sorrow in the passing of the late Dr. A. E. Webster. In Hamilton Dr. J. M. Shultis and F. L. Williamson spoke feelingly in regard to his life and services. At the conclusion of these addresses one minute's silence was observed.

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#### **Director of Dental Services in Hamilton**

On December 11, Dr. W. L. Whitelock was appointed Director of Dental Services, by the Board of Health. He is a past president of the Academy of Dentistry and spent four years during the war in overseas service, three of which years were spent in France.

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#### **Post-Graduate Course, University of Toronto. Orthodontia for the General Practitioner**

A Post-Graduate Course in Orthodontia for the General Practitioner will be held in the Faculty of Dentistry, University of Toronto, for two weeks, from March 1 to March 13, 1937.

The object is to give the general practitioner of dentistry who is interested in the subject of orthodontia a short, intensive course which will improve his ability to make a diagnosis, enable him to select cases in which he would be justified in undertaking treatment, prepare him to make the necessary appliances and treat the simpler types of cases.

This course is not intended to train a practitioner for specialization, but rather to enable him to render better service to patients who are desirous of having the family dentist furnish some degree of orthodontic treatment.

The teachers in this course will be Charles

## *The Journal of The Canadian Dental Association*

A. Corrigan, D.D.S., C. Angus Kennedy, D.D.S., S. Stuart Crouch, D.D.S., and others. Lectures will also be given by Faculty members on correlated subjects.

The class will be limited to ten practitioners, and the fee will be \$50.00 for each registrant.

Application for registration or further information should be addressed to: The Dean, Faculty of Dentistry, University of Toronto, 230 College St., Toronto.

### **Lindsay Dentist is 98 Years of Age**

Dr. Jacob Neelands, of Lindsay, celebrated his ninety-eighth birthday on December 8. Congratulations were showered upon him on this occasion. Dr. Neelands opened his office in Lindsay the year before the Civil War in the United States, and continued in practice until he was 90 years of age. He is a lover of the country and of the garden and still enjoys a walk when weather permits.

### **Fatality Following Extraction**

Infection which followed the extraction of a third molar caused the death of John H. Ralph, of Ottawa, a second-year law student at Osgoode Hall, on November 22.

### **Dental Nurses' Alumnae Association**

The Toronto Dental Nurses' Alumnae Association held their annual dance on November 25 at the Royal York Hotel. President Miss Nan Braidwood with her associate officers arranged a perfectly lovely party for the members and their friends, and should be commended for the success of their party.

The association planned a shower for its regular meeting on December 15. Members were asked to bring parcels suitable for a Christmas basket which was sent to a needy family. In this way the girls hoped to play Santa Claus in a very real way, and give some family a happy Christmas.

### **Directors of R.C.D.S.**

The Royal College of Dental Surgeons of Ontario has elected the following Board of

Directors: Dr. W. H. Woodrow, Brockville; Dr. D. W. Gullett, Picton; Dr. F. A. Blatchford, Fort William; Dr. C. E. Veitch, Toronto; Dr. G. H. Campbell, Orangeville; Dr. L. D. Hogan, Walkerville; Dr. G. L. Prestien, Galt; Dr. C. A. Nelson, St. Catharines.

### **Dentist's Will**

The High School of Omemee is bequeathed \$1,000 to be established as a trust fund in aiding students, according to the will of Dr. James T. McBride.

### **Preston Rotary Club**

Dr. J. E. Peterson, of Preston, addressed the regular meeting of the Rotary Club on December 8 on the subject of "Dentistry." He described the work of the Canadian Dental Hygiene Council.

### **Grey and Bruce Dentists**

The annual meeting of the Grey and Bruce Dental Association was held November 25. Dr. Sydney Woollatt, of Toronto, presented a very interesting paper on "Prosthetic Dentistry."

The following officers were elected: Hon. presidents—Dr. Staples, Hanover, and Dr. G. H. Holmes, Owen Sound; president, Dr. Norman K. Douglas, Owen Sound; vice-president, Dr. Alex. Campbell, Wiarton; secretary, Dr. G. H. McKee, Owen Sound.

### **Boy, Nine, Wants Tooth Pulled to Get 75 Cents**

A nine-year-old lad entered the office of a Belleville dentist and said, "Will you please pull a tooth for me, doctor?" The dentist, who vouches for the story, said that on examining the boy's teeth, he couldn't find anything the matter with them. "Which one is causing the trouble?" he asked. The little fellow raised his head in the chair, smiled, and replied, "Please pull any one. Every time I get a tooth pulled, my mother, my dad and my grandmother each gives me 25 cents."—*From The Star Weekly, Toronto.*

## EMPIRE NEWS

### AUSTRALIA:

#### Dental Congress

The Ninth Australian Dental Congress will be held in Sydney, August 16-20, 1937. A "Congress Commission" has been formed from members of the Association in all the states, to plan for the meeting.

Sydney has now become the second largest city in the British Empire and offers many attractions to those who can plan to be present at this great Congress.

#### Income Tax Deductions

Sir Harry Moxham has succeeded in persuading the authorities who have charge of income tax, to allow a deduction from the income tax for dental fees on incomes under £400 a year.—*British Dental Journal*.

#### Ninth Australian Dental Congress

The ninth Congress will be held in Sydney, August 16-20. There will be sections on oral surgery, prosthetics, anaesthesia, periodontia, pathology, orthodontia, ceramics, operative dentistry, dental health education and others.

Visitors from abroad may be assured of an attractive time.

#### Dental Health Education

The Dental Health Educational Department of the Australian Dental Association, N.S.W. Branch, took an active part in the 1936 Health Week Campaign. One day of this week was set aside as Dental Health Day when many talks and broadcasts, stressing the dental aspect of public health, were given.

### NEW ZEALAND:

The 28th Annual Conference of the New Zealand Dental Association was held at Wellington in August and was one of the best meetings ever held in the Dominion.

Professor Amies, Mr. Down and Mr. Hunt, representatives of the Victorian Branch of the Australian Dental Association, were guest speakers.

Professor Amies spoke on "Antrum Infection of Dental Origin", "Anatomical and Pathological Considerations in Regard to Unerupted and Impacted Teeth", "Dry Sockets" and "Epulides". Mr. Hunt spoke on "Electro-

Forming", illustrating his lecture with lantern slides, "Stabilizing of Lower Dentures", "Maxillary and Mandibular Impressions" and "Posterior Tooth Forms". Mr. Down spoke on various phases of "Operative Dentistry".

Other interesting papers and clinics were given, followed by the Annual Golf Match between the North and South Island.

### SOUTH AFRICA:

Recently at Maritzburg, in an address to the local Rotary Club, Dr. Louis Leipoldt declared that physical defects among European children, due to malnutrition, were extremely common and most noticeable in connection with teeth.

"It was stated that the climate was not to blame but solely the fact that life has been based for the past 200 years on the fallacy that South Africa is an agricultural country. Dr. Leipoldt further said: "We are encouraging our farmers to produce luxury products for which the public has to pay fancy prices instead of importing them at prices within the reach of everyone."

The high incidence of dental disease among both Europeans and non-Europeans he considers due to incorrect feeding, more especially in the pre-natal period.—*Dental Magazine and Oral Topics*.

### INDIA:

#### Nair Hospital Dental College

The Fourth Annual Announcement of the Nair Hospital Dental College of Bombay is now available.

This college was organized in 1933 and since that time has set up a modern dental clinic equipped with the latest apparatus including 26 completely equipped chairs, and also two complete laboratories.

The regular course of instruction leading to the diploma of L.D.Sc. Bombay consists of four annual sessions, each in separate academic years. At present there are 57 students enrolled, 9 of whom are lady students.

The popularity of this clinic among the people of Bombay is evidenced by the fact that 7,000 patients are treated annually.



## GENERAL NEWS

### International Association for Dental Research

The next general meeting of the above Association will be held in Baltimore, Md., March 13, 14, 1937. Dental colleagues who are not members, and also non-dental workers in related fields will be welcome at all sessions and at the annual dinner.

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### Oregon Constitutional Amendment Defeated

The constitutional amendment prohibiting the regulation of advertising was defeated by a vote of 2 to 1. While dentists or dentistry was not mentioned in the measure, it was common knowledge that it was aimed at the dental practice act.

Only in two or three instances did papers oppose the amendment. Apparently there is an increasing number of papers throughout the country which are recognizing the necessity of stamping out quackery.

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### Dental Journals Merge

Under arrangements completed between the American Dental Association and the S. S. White Company, the Dental Cosmos will be merged with the Journal of the American Dental Association. The first issue of the combined journals will appear this month and will be known as the "Journal of the American Dental Association and the Dental Cosmos". Dr. C. N. Johnson will be editor of the combined journals and Dr. L. Pierce Anthony will be associate editor.

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### Bureau of Human Heredity

115, Gower Street, London, W.C.1, England.

The object of this Bureau is collection on as wide a scale as possible of material dealing with human Genetics. Later, the tasks of analysis of material and distribution available will be added.

The Bureau is directed by a Council representing medical and scientific bodies in Great Britain. It is affiliated with the International

Human Heredity Committee, which ensures co-operation in all areas where research is proceeding.

The Council would be grateful to receive all available material from Institutions and individuals, furnishing well-authenticated data on the transmission of human traits whatever these may be. Pedigrees are particularly desired; twin studies and statistical researches are also relevant. As research workers and others who send in material may in some cases wish to retain the sole right of publication (or copyright) those who so desire are asked to accompany their material with a statement to that effect.

Material should be given with all available details in regard to source, diagnostic symptoms and the name and address of the person or persons who vouch for accuracy. All such details will be regarded as strictly confidential.

Reprints of published work would be most acceptable. Further, many authors when publishing material may also have collected a number of pedigrees which they have been unable to reproduce in detail. It is the object of the Council that such records, by being included in the Clearing House, should not be lost.

Those wishing for a copy of the Standard International Pedigree Symbols may obtain one from the office.

Announcements in regard to the services undertaken by the Bureau will be published from time to time.

*Chairman:* R. Ruggles Gates.

*Executive Committee:* R. A. Fisher, J. B. S. Haldane, E. A. Cockayne, J. A. Fraser Roberts, L. E. Halsey (Hon. Treasurer), C. B. S. Hodson (Hon. Gen. Secretary).

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### In Memory of Late Deans Webster and Seccombe

The Faculty of Dentistry, University of Toronto, under the leadership of Dean Arnold D. Mason, is formulating plans to establish suitable memorials to commemorate the life and work of the late Deans Webster and Seccombe.

### Germany Halts Enrolment in Dental Colleges

Pending adoption of new educational standards and having in mind the large number of dentists in Germany, a temporary prohibition has been instituted against further enrolment in dental colleges in that country, according to a report from Consul Sydney B. Redecker, Frankfort-on-Main, made public by the Commerce Department's Chemical Division.

Authorities are said to feel that the rapid increase in practitioners, coupled with widespread dental illness throughout the country, suggests that standards of education in the profession have not been sufficiently rigid and that the situation requires more careful selection of students and higher standards of skill, the report states.

The number of dentists and dental technicians practicing in Germany has increased rapidly during the past quarter century. In 1909 the country had a total of only 2,667 dentists and 8,546 dental technicians; by 1934, the number had grown to 11,247 and 20,000, respectively, it was stated.

Germany's national bill for dental services is estimated to have totalled \$40,000,000 in 1935. Expenditures made for dental services from National Sickness Insurance Funds increased 8.4 per cent. in 1935 to approximately \$35,000,000, which compares with a total of \$114,500,000 expended upon its members for all other medical treatment, it states.

The temporary ban against new admissions to dental colleges does not include students training to be dental technicians, the Consul reported.—(*A.D.A. Press Release Service*).

### Mexico Plans Law to Regulate Professions

Legislation requiring all foreigners practicing law, medicine or other professions in Mexico to become naturalized citizens has been forecast in the chamber of deputies.

Congressman Jose Gomez Esparza, chairman of a legislative commission, said his committee was planning to report on such legislation and was confident it would be enacted speedily.

Gomez Esparza said the measure probably would seek also to distribute physicians and lawyers more evenly throughout Mexico,

nationalize all professional schools and "socialize" medicine.—*By the A.P. (A.D.A. Press Release Service)*.

### Western Canada Convention

The Western Canada Dental Society will hold its next convention in Saskatoon from May 31 to June 2 (inclusive) 1937.

The program committee has already made excellent progress and has contacted several noted clinicians who will be present.

P. W. WINTHROPE,  
*Chairman, Publicity Committee.*

### Hospital Plan Prospers

The Associated Hospital Service of New York City reported, in October, that on a three-cent-a-day service, the association had assets of \$513,096.

There were 140,000 persons in the metropolitan area eligible for hospital service under the plan.—*New York Times*.

### Washington Plan

Some figures assembled by Dr. Virgil Loeb showing the number of patients handled by the Medical-Dental Service Bureau of St. Louis, Missouri, in eleven months are interesting in connection with a survey of this plan. Number of patients handled by Medical-Dental Service Bureau (in 11

|                                                    |              |
|----------------------------------------------------|--------------|
| months) .....                                      | 767          |
| Amount of payments (over).....                     | \$67,000     |
| Number of patients budgeting old bills .....       | 230          |
| Number of patients budgeting new bills .....       | 537          |
| Cases pending .....                                | 64           |
| Number of city physicians using bureau .....       | 224 or 22.4% |
| Percentage of county physicians using bureau ..... | 31.7%        |
| Percentage of hospitals using bureau.....          | 82%          |
| Number of dentists using bureau.....               | 94           |
| Percentage of dentists using bureau.....           | 14%          |
| Average amount of physician's bill.....            | \$70.00      |
| Average amount of dentist's bill.....              | \$47.00      |
| Average amount of hospital bill.....               | \$64.00      |

—*International Journal of Orthodontia and Oral Surgery.*

## *The Journal of The Canadian Dental Association*

### **Passing of Dr. John T. Hanks**

Dr. Hanks, of New York City, died suddenly November 18, being stricken with a heart attack, in a subway, as he was returning from a W.P.A. dental meeting. Besides con-

ducting an exceptionally large practice, he took a very active interest in national dental affairs, particularly in the field of economics. Organized dentistry laments the loss of an indefatigable worker.—(A.D.A. Press Release Service).

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## **IN MEMORIAM**

**Lena M. Storey Woodrow**—of Brockville, Ontario, died suddenly on November 26. She was the beloved wife of Dr. W. H. Woodrow to whom the sympathy of a great number of friends in Canadian dentistry is extended at this time. Dr. Woodrow is a past president of the O.D.A., a member of the Board of the R.C.D.S. of Ontario, and a member of the Board of Delegates to the C.D.A. Indeed, he has given much of his time and counsel to the advancement of his profession. Perhaps no one knows better than he, the sacrifices Mrs. Woodrow has made, in this connection, by her unselfishly giving up the companionship of her husband on so many occasions when he was away on dental business. The dental profession has lost a good friend in the passing of Mrs. Woodrow.

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**Henry Martin**—of Windsor, Ontario, aged 71, died suddenly at his home December 16. Apparently in the best of health, he had practised his profession in the morning and had motored to Essex in the afternoon. He was stricken shortly after his return home.

Dr. Martin was a graduate of the University of Toronto and opened his first office in Essex 44 years ago. Eight years later he moved to Windsor.

He was known throughout the district for his activity in fraternal circles and in the Liberal party.

**Andrew Arthur Sommerville**—of Toronto, died November 23. The sad news of his death brought a pang of grief to his dental associates. Affectionately known as "Sandy," he was well known and highly respected for himself and for his work as an orthodontist. He was in his thirty-fourth year, and a native of Durham County, Ontario.

He was always prominent in athletics, being at one time an ardent enthusiast of baseball. He excelled also in track, badminton, squash and golf. He graduated in 1929 and immediately associated himself with Dr. G. Vernon Fisk in the practice of orthodontia.

Dr. Sommerville married a dentist, Dr. Lesley Leitch, also a graduate in 1929.

Dr. G. Stanley Russell conducted the burial service very simply but most impressively. The representation of Toronto dentists present at the funeral was a very high tribute to the esteem in which our late colleague was held. To Dr. Lesley Sommerville and her little daughter we extend our sympathy in their great loss of husband and father.

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**David Baird**—of Toronto, Ontario, aged 73, died on December 2 following an attack of pneumonia. He was an elder of Chalmers Presbyterian Church and belonged to the Independent Order of Oddfellows.



## ... SECTION FRANÇAISE ...

Rédacteur.

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Rédacteur-Adjoint.

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### COMITE DE REDACTION

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## Editorial

**E**NFIN ! disait l'éditorial de janvier 1934, l'Association Dentaire Canadienne publie son premier bulletin mensuel; et déjà nous entrons dans la troisième année. Nous sommes donc assez vieux pour faire un léger examen de conscience. Avons-nous mis en pratique ce que nous proposait le Docteur Hamel, notre rédacteur en chef? Ceux qui depuis longtemps déploraient l'absence d'une revue canadienne française, ont-ils profité des dix pages que nous offrait l'Association Dentaire Canadienne, pour écouler cet apparent surplus de science qui ne semblait attendre que la naissance d'un organe, pour se révéler au monde et nous couvrir de gloire? Hélas! à toutes ces questions, il faut répondre: non. Aux grands cris, qui réclamaient la fondation d'un journal, proclamaient partout la possibilité d'entretenir et d'administrer avec profits, un bulletin d'au moins trente-

cinq pages, succéda le bruit louche des pas feutrés de nos braves en fuite. Les gosiers clamants cédèrent la place aux lèvres qui chuchotent et les critiques sourdes commencèrent. De critique bienveillante et constructive, il y en eut si peu, qu'il fallût la rechercher. Enfin, la collaboration nous arriva de source imprévue; celle qu'on attendait ne vint pas.

Est-ce à dire pour tout cela qu'il fallait choir et attendre la mort? Oh non! et votre rédacteur, s'il le vit de très près, ne connut jamais le découragement. Aidé d'une secrétaire dévouée, il sollicita à gauche, à droite, si bien que chaque numéro put paraître en temps, porteur de quelque chose d'utile. Se rappelant que les grandes oeuvres ont toujours eu des débuts pénibles, nous avons toujours eu foi dans l'avenir.

1937 verra probablement la réalisation

de nos rêves. Une organisation nouvelle présidera maintenant aux destinées de notre journal.

Une distribution toute nouvelle de la matière devrait plaire à tous. Mais on voudra bien le noter: plus que jamais nous sollicitons la collaboration. Elle sera d'autant plus facile que les formules seront plus variées. Elle peut prendre la forme de travaux originaux, de questions,

de suggestions, de narrations, de faits, d'histoires de cas, de petites et grandes nouvelles, d'intérêt général. Enfin, chacun devrait trouver un moyen de faire fructifier les autres d'une forme particulière de talent qu'il peut avoir.

Sous des auspices aussi favorables, nous offrons à tous, nos meilleurs vœux de paix et de succès pour l'année qui commence.

## **Prothèse Dentaire dans la Bronche Gauche: Bronchoscopie, Ablation**

par le Prof. J. N. ROY, F.A.C.S., Montréal.

### OBSERVATION

M<sup>LLE</sup>. V. M., âgée de 27 ans, se présente à l'hôpital Notre-Dame le 21 février dernier. Elle raconte que la nuit précédente, vers quatre heures du matin, elle s'est éveillée en étouffant. Après amélioration de la respiration, elle se leva pour prendre un peu d'eau, mais ressentit un malaise dans la poitrine du côté gauche. S'étant couchée de nouveau, la malade ne dormit pas le reste de la nuit. Elle remarqua alors que la prothèse dentaire, qu'elle portait la veille, avait disparu. Fabriquée depuis un an à peine, cette pièce n'avait jamais été solide, et la patiente était obligée de l'enlever quelquefois, surtout pour s'alimenter. De temps à autre elle mettait un peu de ciment pour la retenir à la dent de support. Dans le courant de la matinée, elle se mit à table pour déjeuner, mais ne garda pas son repas.

A l'examen de la bouche nous voyons que la prothèse avait été faite pour remplacer la première incisive centrale supérieure gauche.

Nous observons au rhino-pharynx une inflammation chronique assez prononcée de la muqueuse.

Le larynx présente un léger état

d'hyperémie, mais il n'y a pas d'érosion.

Nous demandons une radiographie, et le Dr. Laquerrière localise le corps étranger dans la bronche gauche. Cependant, il est impossible de voir si c'est la dent artificielle, ou sa couronne métallique de soutien, qui occupe la position inférieure. Nous pouvons tout de même supposer que la dent, plus lourde que le reste de la pièce, est en bas. (Voir photographie No. 1.)



**Figure 1**

*Aspect radiographique du corps étranger.*

L'auscultation, pratiquée par le Dr. J. Prévost, permet de constater qu'il existe un foyer congestif para-hilaire au niveau du tiers moyen du poumon gauche. Pas de signe d'atélectasie. Le poumon droit est normal.

La malade est alors admise à l'hôpital, et le lendemain matin sa température est de 39°C. Une demi-heure avant l'intervention, injection hypodermique de H.M.C. (hyoscine, morphine, cactoïde).

### *Opération*

Anesthésie locale du pharynx et du larynx avec une solution de cocaïne au dixième, au moyen d'un pulvérisateur. Anesthésie de la trachée à la cocaïne à 3%, avec une seringue intra-trachéale. La patiente étant couchée, sa tête est fortement renversée en arrière sur l'appui-tête de Haslinger. Nous nous servons de l'instrumentation de Chevalier Jackson. Après avoir découvert le larynx avec le laryngoscope, nous passons un bronchoscope de 40 cm. de longueur sur 8 mm. de diamètre. L'instrument est ensuite descendu dans la bronche gauche, et nous apercevons immédiatement le soutien en or de cette prothèse. Une pince à extrémité plate est introduite, mais elle glisse sur le métal. Ayant alors recours à la pince de Tucker, nous réussissons de suite à enlever le corps étranger, localisé dans la grosse bronche à 4 cm. environ de l'éperon. L'intervention a duré six minutes. Une seconde laryngoscopie directe permet de voir que les cordes vocales n'ont pas été lésées.

Les suites opératoires sont absolument normales. La température disparaît, ainsi que le malaise à la poitrine, et la congestion pulmonaire.

La prothèse mesure 17 mm. de longueur sur 11 mm. dans son plus large diamètre. (Voir photographie No. 2).

La pièce comporte une dent en porcelaine retenue par une couronne métallique fenêtrée en or. Cette couronne est brisée

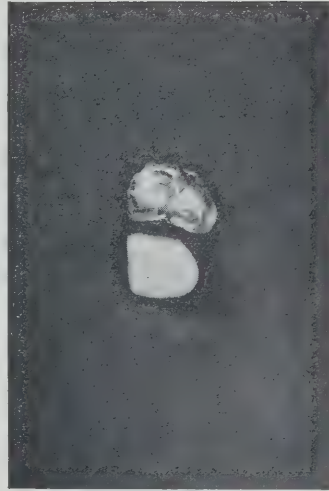


Figure 2

*Prothèse dentaire, grandeur naturelle.*

à sa partie labio-gingivale, et présente des bords tranchants.

La prothèse pèse un peu plus de deux grammes.

Intrigué par le fait que le corps étranger s'était logé dans la bronche gauche, et qu'au point de vue anatomique il aurait dû plutôt se localiser dans la droite, nous essayons d'en trouver la cause. La malade, interrogée de nouveau, nous dit qu'elle a généralement l'habitude de se coucher sur le côté gauche. Lors de l'accident, elle précise que, s'étant réveillée étouffée, elle s'est appuyée sur le coude gauche, et qu'elle a gardé cette position jusqu'à ce que le spasme de son larynx fut disparu. Très forte fumeuse de cigarettes, elle présente une pharyngolaryngite chronique qui amène de temps à autre de petites quintes de toux.

Cette observation est intéressante à deux points de vue: d'abord par l'histoire de la patiente, et ensuite par la localisation de la pièce dentaire. En effet, il est rare qu'une personne accepte une prothèse qu'elle est obligée d'enlever quelquefois, et qu'elle essaye de stabiliser ensuite au moyen de ciment. La nuit de l'accident

la malade était, comme toujours, parfaitement sobre, et il est plus que probable que la toux, causée par l'irritation du tabac, a produit alors l'aspiration.

Pour ce qui est du corps étranger dans la bronche gauche, on aurait dû le trouver plutôt du côté droit, pour la raison anatomique suivante que je rappellerai. La trachée d'un adulte présente en moyenne un diamètre de 24 mm., la bronche droite un diamètre de 23 mm., et la gauche de 20 mm. seulement. En outre l'éperon bronchique est légèrement incliné du côté gauche. Si la prothèse s'est localisée à ce dernier côté, il faut bien admettre le récit de la malade, à savoir: que s'étant réveillée étouffée, elle s'est appuyée sur le coude gauche, et qu'elle a gardé cette position jusqu'à ce que le spasme glottique fut terminé. A ce moment la pièce dentaire relativement lourde étant aspirée, a glissé dans la bronche correspondant à l'inclinaison du thorax.

Bien que la radiographie n'ait pu préciser la position de la dent, il était logique de croire que celle-ci était descendue la première, étant donné son poids plus considérable que celui du reste de la prothèse, et que cette dent, en porcelaine bien régulière, était par-

venue sans arrêt dans la bronche gauche avec sa couronne métallique de soutien.

En face de ce corps étranger, il fallait l'extraire sans léser, si possible, les cordes vocales et la sous-glotté. Aussi, après avoir introduit le bronchoscope jusqu'à son voisinage, nous reconnaissons que la couronne en or était bien en haut, présentant ses bords tranchants. Une première prise avec une pince plate ayant échoué, vu son glissement sur le métal, nous nous servons ensuite de la pince de Tucker qui nous permet de faire immédiatement l'ablation. Pendant cette manoeuvre nous apportons un grand soin à ce que la prothèse soit en contact direct avec le bronchoscope, et à ne pas faire de déchirure, surtout à la région glottique. Nous savons, en effet, qu'une lésion de cette partie peut avoir des conséquences graves par la production d'un oedème, nécessitant quelquefois une trachéotomie. Dans notre cas, il fallait être d'autant plus prudent que la couronne métallique irrégulière et coupante, se trouvait dirigée en haut.

Nous ne croyons pas devoir insister davantage; nous soulignerons simplement le fait qu'il est bien dangereux de garder une prothèse dentaire qui n'est pas solidement fixée au dents de soutien.

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## *A propos d'une Pièce de Prothèse Dentaire engagée dans les Voies Respiratoires*

**M**ONSIEUR X . . . 16 ans, hospitalisé à l'hôpital du Sacré-Coeur, de Cartierville pour tuberculose pulmonaire bilatérale extensive avec hémoptysie, se réveille au cours de la nuit du 22 novembre dernier, vers trois heures, très incommodé par une toux intermittente et

quelque peu de difficulté à respirer. Portant la main à la bouche dans un nouvel accès de toux, il s'aperçoit, à sa stupéfaction, que son dentier n'est plus en place. Il cherche autour de lui et ne le trouvant pas, il réalise alors avec angoisse que son appareil lui est tombé



dans la gorge et que c'est probablement ce qui l'incommode. Il appelle, on lui recommande la plus grande immobilité et comme la respiration n'est pas trop gênée pour le moment, on décide d'attendre au matin pour tenter l'extraction de l'appareil.

Le Docteur Gérard Rolland chirurgien de l'hôpital est appelé. Il demande une radiographie et constate à la lecture que l'appareil est rendu au niveau de la septième vertèbre cervicale, et qu'il semble immobilisé. Le patient est soumis à l'anesthésie locale, cocaïne à 10%.

Peu après on pratique l'endoscopie, procédé qui consiste, comme vous le savez, à faire l'examen, ou plutôt l'exploration des conduits et des cavités à orifices étroits, à l'aide d'un instrument d'optique composé d'une série de miroirs et d'une lumière qu'on appelle endoscope. On voit alors que cet appareil composé d'une plaque de caoutchouc (figure 1)

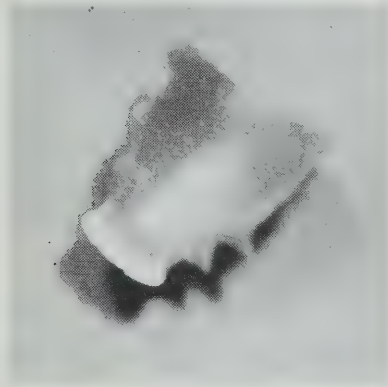


Figure 1.

et de trois dents mais sans crochets, est retenu par ses angles au delà des cordes vocales. Les pointes ont pénétré dans la muqueuse, il y a un oedème assez prononcé et la respiration est de plus en plus pénible. Le chirurgien utilisant alors une pince spéciale à très long bec et avec d'infimes précautions, afin de ne pas

repousser l'appareil plus avant, où de l'ancrer plus fermement et par le fait même blesser les tissus, procède à quelques manipulations faites avec beaucoup de dextérité et en arrive à faire l'extraction sans lacérations. La vie du patient est sauf. Le dentier était resté dans cette position durant six heures. La radiographie (figure 11) nous démontre très bien la localisation de l'appareil.



Figure 2.

Je profite du fait de ce cas tout récent pour vous faire remarquer, que loin d'être très rare ce genre d'accident survient assez souvent. Le Docteur Chevalier-Jackson nous en cite quelques centaines de cas. Aurions-nous une part de responsabilité dans ces accidents? Je le crois, c'est pourquoi j'insiste auprès de vous sur la nécessité d'avertir le patient chaque fois qu'il doit porter un appareil de prothèse dentaire assez petit ou mal retenu, du danger de garder pareille pièce pour dormir. Je crois qu'il est sage et même nécessaire de lui recommander d'enlever cet appareil pour éviter des accidents de ce genre toujours très graves et quelquefois mortels.

*Gérard Baillargeon,  
le 12 décembre 1936.*

## Revue des Revues

### "Dental Cosmos"

novembre 1936

*"La composition chimique des dents humaines subit-elle certaines modifications sous l'influence d'agents physiologiques?"*, par Marian L. Lefebvre, M.S., et Harold C. Hodge, Ph.D.

Les auteurs rapportent une série d'expériences entreprises dans le but de contrôler les modifications de la structure et de la composition des dents, quand elles sont soumises aux chocs physiologiques de la mastication.

Les auteurs furent heureux de trouver un patient habitué à faire la mastication de ses aliments d'un seul côté de la bouche. Ils ont constaté que ces dents constamment en usage, avaient une teneur moindre de sels minéraux, étaient plus molles et s'opposaient moins à la pénétration des rayons X.

Cette étude est assez intéressante, mais ne permet pas de conclure à un principe à cause de la difficulté de trouver des patients conscients de mastication unilatérale.

*"La disposition des dents dans les dentures naturelles et artificielles,"* par Dorothy B. Waugh.

Le Dr. Waugh présente dans cet article, une étude intéressante sur la reconstitution esthétique des dents naturelles sur les dentiers; elle montre en détail sa méthode de reproduire les traits originaux de la face du patient, en se basant sur des modèles faits avant l'extraction des dents.

Elle donne des suggestions pratiques sur l'arrangement des dents artificielles, pour conserver les traits caractéristiques de la figure et de la bouche du patient et aussi pour améliorer et prévenir des défauts phonétiques.

L'article est illustré de nombreuses photos.

*"Le traitement et les complications des fractures de la mâchoire; discussion de ces traités,"* par Paul I. Addison.

Le Dr. Addison nous communique ses observations sur 39 cas de fractures de la mâchoire traités au Harlem Hospital de New-York.

On constate que la majorité de ces cas de fracture comportent aussi la fracture d'une molaire comprise dans la ligne de la fracture osseuse.

L'auteur présente une technique détaillée pour le traitement de ces fractures et nous intéresse surtout par la conservation de ces dents brisées.

*"La calcification des dents; sa signification et sa constatation,"* par Franklin Hollander. Ph.D.

L'auteur nous communique ses recherches, entreprises sous l'égide du Comité des Recherches de la Société Dentaire de l'Etat de New-York, pour trouver les changements qui surviennent dans la calcification des dents après leur éruption.

Pour ce faire, on se servit de la radio-opacité de fragments microscopiques de dents extraites. Voici les résultats: des sels de calcium sont déposés dans les dents jusqu'à l'âge de trente ans, une calcification et une perméabilité progressives de l'email et de la dentine, les influences nutritives et physiologiques, sur le métabolisme du calcium et des dents.

*"Traitement des dents dévitalisées,"* par E. Allan Lieban.

L'auteur présente un travail fouillé sur le traitement des dents dévitalisées et

qui manifestent encore des poussées pathologiques.

Il expose en détail ses méthodes de traitement et pose une classification sensée des dents susceptibles d'être traitées; ses procédés de diagnostic sont aussi intéressants.

*"Les canaux dentinaires et leur relation avec la solution anesthésique Hartman,"* par Charles F. Bodecker.

Le Dr. Bodecker, président du Comité des Recherches scientifiques de la Société Dentaire de l'Etat de New-York, tente de déterminer les caractères des tissus dentinaires et d'expliquer les phénomènes que la solution Hartman produit sur eux.

Les études de ce comité sont d'un très grand intérêt, surtout quand elles traitent des propriétés anesthésiques de cette solution.

Le Dr. Bodecker confirme ses constatations précédentes, à savoir: qu'il existe dans les tubules dentinaires, une circulation lymphatique, expliquant l'action de la solution Hartman.

Ses graphiques démontrent clairement les causes des succès variés de la solution et indiquent au praticien les cas favorables à l'emploi de ce liquide anesthésique.

*"Les objections au maintien raisonné de la santé,"* par Paul F. O'Brien.

Le Docteur O'Brien montre les inconvénients que présente, tant pour le dentiste que pour le patient, le retard apporté au soin des dents. Il est d'avis que la principale raison invoquée par le patient, pour remettre à plus tard ses visites chez le dentiste, est la crainte de la douleur.

L'auteur trace un plan à suivre pour convaincre le patient de la nécessité du soin de ses dents, procédure basée sur la psychologie et à la portée de tout praticien.—Heureuses suggestions.

*"L'appareil 'Dental Film Fix' (D.F.F.) et 'Gnato Film Fix' (G.F.F.) inventé pour l'examen radiologique comparatif et périodique des dents; son emploi dans la radiologie intra-orale et extra-orale,"* par R. Birch.

L'auteur explique une méthode, qui est employée pour obtenir des radiographies des mêmes dents et de leurs parties avoisinantes à des intervalles réguliers; il montre le fonctionnement de son appareil et les résultats qu'il obtient.

*"La validité des lois concernant la réclame faite par le dentiste,"* par Leslie Childs.

M. Childs cité plusieurs jugements rendus par les cours de différents états américains, dans des causes-types intentées au sujet de la réclame dentaire.

Ces décisions sont en général favorables aux nouvelles lois établies par les associations de dentistes américains.

*"Anesthésie interseptale,"* par Eugène Schmitt.

L'auteur décrit et illustre les techniques les plus récentes pour obtenir l'anesthésie interseptale. Il recommande ces méthodes pour les préparations de cavités et l'extirpation des pulpes. Ce procédé a cependant des limites: Par exemple: il est contre-indiqué dans les cas d'inflammation des gencives (angine de Vincent), et quand une dent dévitalisée est dans le voisinage.

*"Les causes de la carie dentaire et ses relations avec la structure des dents et leur susceptibilité à l'irritation mécanique,"* par J. B. King.

L'auteur fait une revue complète de la littérature qui traite des causes de la carie et montre la valeur de ces différentes recherches, en payant un tribut d'hommages à Madame Mellanby.

L'intérêt du travail de M. King réside dans l'importance qu'il attache aux fissures microscopiques qu'on trouve dans l'email et qui aident à la formation des plaques de carie. Il est d'avis qu'on devrait étudier d'avantage les agents physiques et bactériochimiques de la carie, si l'on veut trouver la solution de ce problème de la carie dentaire.

*Gérard de Montigny.*

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### *Croissance Acromégalik et Nanisme*

par CLINTON C. HOWARD, D.D.S.,  
Atlanta, Ga.,

*Int. Journal of orthodontia and oral Surgery*  
octobre 1936

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L'AUTEUR, qui n'en est pas à ses premiers travaux sur la fonction des glandes dans le développement osseux, démontre au moyen de nombreux clichés, que jusqu'à l'âge de 7 ans, il est toujours facile d'étudier de façon précise le développement osseux chez les enfants, si l'on prend soin d'étudier leurs poignets au moyen de la radiographie. Chez un enfant dont le développement est normal, il doit toujours se produire avec chaque année, (jusqu'à l'âge de 7 ans), une ossification du corps de l'os.

Si cette ossification ne se produit pas, il y a toujours anomalie de la croissance. L'auteur démontre ensuite que dans l'infantilisme pituitaire vrai, il y a toujours arrêt de développement non seulement de la stature, mais aussi des parties sexuelles.

Que dans l'infantilisme pituitaire où la stature seulement est affectée, la fusion des os se produit toujours à l'âge normal.

*Paul Geoffrion.*

### *International Journal of Orthodontia and Oral Surgery*

L. B. HIGLEY, D.D.S., Iowa City, Iowa  
octobre 1936

Méthode scientifique et nouvelle d'obtenir des radiographies de l'articulation temporo-maxillaire.

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L'AUTEUR, après avoir donné les qualités essentielles d'une bonne radiographie de l'articulation temporo-maxillaire, propose à ses lecteurs un nouvel appui-tête porte-cassette peu compliqué. Ce dernier permet à l'opérateur non seulement de tenir la cassette et la tête du patient immobilisées, mais aussi de repérer la même position de la tête chaque fois qu'on désire une nouvelle radiographie.

L'auteur recommande en plus pour la prise d'une bonne radiographie de l'articulation temporo-maxillaire, l'emploi du cône Potter-Buckly dont l'ouverture doit toujours être placée dans la ligne du rayon central et dont la grandeur de l'ouverture doit toujours être réglée d'après une formule spéciale.

Comme il serait trop long d'expliquer en détail ces appareils, nous recommandons fortement la lecture des articles de l'auteur, pages 699-1936 et 983-1936.

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### *Sensation de brûlure à la langue*

DANS un article très intéressant paru dans l'International Journal of Orthodontia, le docteur J. B. Costen prétend que les malocclusions et la destruction de l'articulation mandibulaire sont assez souvent la cause de la glosso-dynie d'origine périphérique nerveuse, lorsqu'il n'existe pas de lésion à la langue ou au pharynx.



Comme preuve à l'appui, le docteur Costen rapporte 18 cas qui ont été guéris par une prothèse appropriée ou un traitement orthopédique. Les sensations de brûlures, que certains de nos patients ressentent à la langue durant le port d'un

dentier, ne seraient-elles pas dues à une articulation mal prise, trop haute ou trop basse, plutôt qu'au caoutchouc auquel souvent on attribue tous les torts?

Paul Geoffrion.

## Suggestions Pratiques

*Pour rendre ces pages plus intéressantes et plus vivantes, nous prions nos confrères de nous envoyer toutes les suggestions qu'ils croiront utiles. Elles peuvent consister: en tour de main, trucs, recettes, formules inédites enfin tout ce qui pourrait être utile aux autres.*

**B**OUCHONS de Liège. Il est possible de rendre les bouchons de liège imperméables aux acides et à l'alcool: il suffit de les plonger dans une solution froide de caoutchouc et de chloroforme pour ensuite les laisser sécher jusqu'à l'évaporation du chloroforme. Encore les laisser dans la paraffine liquide pendant cinq minutes, les en retirer et laisser la paraffine durcir.

*Lèvres Gercées.* Avant d'opérer un patient dont les lèvres sont gercées, appliquez une couche de collodion. Le collodion enlèvera la douleur, protégera les lèvres et aidera à la guérison. Si les lèvres se fendent facilement et du fait saignent, un peu de résine ou un corps gras leurs rendra leur flexibilité.

*Collodion.* Si on a une éraflure ou une écorchure au doigt ou à la main, une couche de collodion sur la plaie sera utile et aura le grand avantage de résister au lavage.

*Pour circonscrire la soudure d'or.* Pour que la soudure d'or ne dépasse pas un point déterminé, il suffit de tracer une ligne à l'aide d'un crayon de mine bien aiguisé. En fondant, la soudure d'or n'ira pas plus loin que cette ligne.

### CONSEILS UTILES

*Modèle de plâtre ou de pierre artificielle.* On dissout une quantité suffisante de collodion, pour faire un mélange crémeux, dans une partie égale de camphre et d'éther. Les morceaux brisés sont

asséchés, peints avec cette solution et réunis solidement. Cette solution est insoluble dans l'eau et n'est pas affectée par la vulcanisation.

### Formule de poudre à nettoyer les pièces de Prothèse dentaire

|                         |                        |
|-------------------------|------------------------|
| Pierre ponce en poudre: | deux parties,          |
| savon en poudre:        | deux parties,          |
| blanc d'Espagne:        | une partie             |
| bicarbonate de soude:   | un quart de<br>partie. |

—Dr. Godfrey,  
Uni. de Toronto.

*"Modeling compound."* En couvrant d'un papier brun le fond du récipient dans lequel on rend au "Modeling compound" sa plasticité, on évite que ce dernier adhère au fond du bol.

*Coiffe de porcelaine.* Une surface de porcelaine meulée peut se polir parfaitement à l'aide de disques d'émeri, d'os seiche et de pierre ponce pulvérisée.

*Hyperesthésie du collet de la dent.* Asséchez le collet de la dent à l'aide du brunissoir appliquez un peu de chlorure de zinc, chauffez votre instrument et frictionnez assez vigoureusement la partie malade pendant trente secondes. Si après ce traitement, un peu de douleur demeure, ce qui est rare, recommencez l'opération. Il est bon d'avertir le patient que ce traitement est pour un moment douloureux.

*Digue.* Après la mise en place de la digue, il arrive parfois qu'elle se perforé.

Nous pouvons réparer la déchirure en y collant un morceau de diachylon chauffé légèrement. Une couche de collodion peut aussi rendre service.

#### LE TABAC

Dans un article paru dans la Semaine Dentaire et reproduit par le Dental Record, octobre 1936, le Docteur Pierre C. Fouques, après avoir énuméré la composition de la fumée de tabac: (nicotine, pyridine, picoline, acide prussique, monoxyde de carbone), donne aux fumeurs les conseils suivants, afin de diminuer l'action malfaisante du tabac.

1o Fumez à l'air si possible.

2o Employez toujours des fume-cigarettes très longs, car le dommage causé par le tabac est toujours en proportion directe de la distance du point de combustion à la bouche.

3o Rejetez la fumée aussitôt que possible afin d'empêcher la membrane muqueuse d'absorber la nicotine.

4o N'aspirez pas la fumée.

5o Fumez du tabac sans nicotine.

6o Ne fumez jamais lorsque vous souffrez de gingivite, d'angine de Vincent, de leucoplasie ou de pyorrhée alvéolaire. Enfin le docteur C. Fouques termine son article en préconisant la méthode de décotinisaison que voici:

1o Immerger le tabac dans une solution chaude de bicarbonate de soude durant deux heures.

2o Le presser et le macérer dans de l'eau chaude durant une heure.

3o Le presser de nouveau.

4o Le tremper de nouveau durant deux heures dans une solution de nitrate de potasse à 10%.

5o Le presser et faire sécher.

On emploie le soda dans le but de dissoudre la nicotine et le nitrate pour rendre le tabac plus combustible.

(Le tout sera bon à être brûlé dans la fournaise sans inconvénient pour la gorge, conclut la rédaction.)

*Paul Geoffrion.*

UN dentiste qui ne signe pas son nom, écrit dans le Kilburn Times, qu'il a trouvé un moyen merveilleux de contrôler ses patients nerveux.

Je me sers, écrit-il, d'un coupe-circuit à double contrôles. Mon patient tient l'un des contrôles et s'il le désire, peut arrêter le tour électrique à bon plaisir. L'effet produit sur le patient est tout à fait magique et nous lui avons donné le nom de "Bouton de confiance".

Ceci nous rappelle un autre moyen de contrôler la peur chez certains de nos petits patients. Un dentiste de nos amis possède un tout petit réflecteur électrique qu'il donne à l'enfant, lui conseillant de le tenir bien serré lorsqu'il sentira la vibration de la fraise. Nous pouvons dire, après en avoir été le témoin, que cette méthode d'atténuer la peur chez certains enfants, obtient quelquefois des succès.

*Paul Geoffrion.*

## Le Miel

LE miel, substance nutritive unique en son genre. Il ne requiert pratiquement pas de digestion. Une livre de miel fournit autant de calories que 30 oeufs ou 6 chopines de lait et plus d'énergie que la viande et le pain. On connaît bien son effet décisif sur les

affections de la gorge, mais on ignore trop que du miel dans de l'eau chaude est un stimulant très appréciable qui n'a pas le choc en retour de l'alcool dans les cas de faiblesse cardiaque de la broncho-pneumonie. — *Francis L. Jamieson, (Chamber's Journal).*



### HAISKOK

An Alaskan woman, wearing the traditional caribou skin costume, as she appeared when making a Christmas visit to the little settlement of Coppermine, Coronation Gulf, on the Arctic coast.

*Reproduced by courtesy of "The Beaver".*

While the origin of the Eskimos remains a mystery it is known that they flourished around the Bering sea in the early centuries of the Christian era, when they attained a level of culture unsurpassed in modern times. During the past fifteen years civilization has steadily extended its outposts until in 1925 not more than five hundred miles of our arctic coastline remained unaffected by the trader and white trapper. The coming of the white man has not been an unmixed blessing. A taste for flour, tea, sweets and tobacco has been developed and inability to obtain these goods is frequently considered a hardship. To the dentist this habit means trouble, sooner or later. The Canadian Dental Association has a duty to these people of the far north. May the time soon come when we will be in a position to meet our many duties effectively.

M. H. G.



STEPHEN A. MOORE, D.D.S.

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President-Elect of the Canadian Dental Association.

Business Manager of the Journal of the Canadian Dental Association.

Past-President of the Ontario Dental Association.

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## The Present Needs of the Community in the Care of the Teeth\*

by C. N. JOHNSON, Chicago, Ill.

THERE are always two aspects to this question whenever it is presented for consideration, the one relating to the responsibility of the profession in its approach to the problem and in its duty to the community, and the other the reaction of the community when the profession has volunteered to do something.

I trust that I may not be charged with indifference to the ills of humanity or with undue prejudice against any one when I say that I am persuaded that the most difficult and uncertain problem is to enlist the wholehearted co-operation of the community in any effort of this character. As far as I have been able to observe, the profession has always been willing to do a reasonable share in bringing about an amelioration of the dental ills of the people, at least to the extent of its ability. Manifestly it is found impossible for members of the profession to voluntarily attempt to throw themselves into the breach and perform all of the necessary operations that are required to put the defective teeth of the people in a healthy condition, and do it without compensation of some sort. To undertake this would soon bankrupt the pro-

fession and it would also do something else and something worse. It would tend to disintegrate the manhood of the people and break down their *morale*. This has amply been demonstrated by the operation of the dole, in some respects one of the saddest spectacles that has ever been presented for the consideration of society. The far flung effects of the dole have done more to bring ruin to the people than anything that has ever happened in the history of modern times.

To put it in any guise we may, the policy of doing something for nothing is a pernicious one at best. No matter how much we may preach about the beneficence of charity and the laudable impulse to help one's fellowman the principle of such a procedure is demoralizing and harmful. I cannot say to you how strongly I feel on this question.

Permit me to make myself clear. I yield to no man in the perfect joy I have in bringing succor to the helpless. No thrill is ever quite as great as that by which a little child is rescued from the ills of suffering or deformity, no benefaction more satisfying than to relieve the disability of the hapless victim of old

\*Read before the Academy of Dentistry, Toronto, October 26, 1936.

age and infirmity. And herein I have touched on two classes of society that unreservedly stand out as calling for the extreme limit of charity and consideration. No reservation should be made in relieving the ills of little children or in ministering to the feeble or infirm. I am very sure that no dentist worthy of the name ever has had or ever will have the slightest hesitation in wholeheartedly coming to the relief of the two classes mentioned. Neither shall we ever see the day when a practitioner of dentistry shall quibble over relieving pain absolutely regardless of the fact as to whether or not the victim has a penny in his pocket.

I cannot refrain from pointedly calling to mind the fact that we are a profession, and I should also like at this time to claim for my fellows in the profession a recognition of the further fact that as a group we measure up to the fundamental obligation of our craft, an obligation that entails on us the responsibility of maintaining a higher ethical concept in our contact with each other and with society at large than that which obtains in any commercial or industrial pursuit. This has always been recognized as a tenet of our faith and this being the case there has never been any question of our willingness to do our full duty in the matter of charity.

#### REAL CHARITY

Real charity means two things: it means helping our fellows but it should also mean that we shall help them without at the same time doing more harm than good. I have just said that in the matter of dental relief two classes of society were entitled to the fullest measure of our devotion and I still stand for this belief, but I think that we have sometimes been too lax in not sufficiently scrutinizing the character of our beneficiaries, and I want at this point to emphasize a principle and make an irre-

vocable contention. This statement is to the effect that the moment any able-bodied individual holds out the hand and accepts something for nothing, that moment there begins in that individual a moral disintegration that starts him straightway on the road to dependency and irresponsibility, and in the end to something worse. Many a man has found growing up in his nature the first fruits of pauperism and defeatism by yielding to the temptation to accept a bounty.

#### INDIVIDUAL RESPONSIBILITY

The thing most needed in society at this critical period is individual responsibility and initiative. Yes, and a man needs to have a wholesome pride. If a man loses his pride he has lost a goodly part of his manhood, and one of the most distressing things in connection with the operation of the dole is the moral and mental breakdown of the men who accept it.

But let us get down to the practicalities of our present situation in the matter of dental relief and see if we can face the community as members of a philanthropic profession. When this problem was presented to us in its full intensity during the onset of the depression all kinds of plans were proposed to meet the situation. The most laudable efforts were made to stem the tide of dental disaster, and much good was undoubtedly done, but if I were asked to tell you to-day what single plan of procedure might be depended on for the best solution of the situation, I doubt that I should have the temerity to suggest one.

Different communities are to be met by different plans, but there are two considerations that I should like to emphasize at this time. Any group effort in dental relief should be confined to the case of children, and even then much of the effort to be expended should be in the direction of educating children in

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the proper care of the teeth and mouth. To the extent that it is possible it is far better to bring children up with an understanding of the proper daily care of the teeth, and thus lead them toward the utopia of prevention, than it is to hold out the promise that there are dental clinics where decayed teeth may be cared for at public expense. In fact, this is only in line with the before-mentioned theory of individual responsibility, an idea that cannot be inculcated too early in life.

In every conceivable way our citizens old and young should be schooled in the theory that to the utmost of their ability they should be taught to take care of themselves. I do not wish to contend for the idea that in the heave and throw of humanity we shall hesitate to help one another. It would be unthinkable to imagine a state of society in which the citizens hesitated to come to the rescue of their fellows in any emergency or in fact in any of the difficulties of life, but the longer I live the more impressed I am with the fact that the best and most salutary help that can be given an individual is to teach him to help himself. If you consider this doctrine hard boiled and lacking in humanity I can only say that in my experience with life—and I claim to have had much of it—I have done more good by developing self-reliance and compelling beneficiaries to face their emergencies themselves to the utmost of their ability than I have by unreservedly lending a helping hand and assisting them over the hurdles of their lives. And I am willing to go on record with the statement that it is much easier to lend this same helping hand than it is to compel people to think and do for themselves.

### PERSONAL EXPERIENCE

At this point I am tempted to give you a recital of my personal experience

with one of the earliest efforts in community dental service in the city of Chicago. I was Chairman of the Public Service Commission of the Chicago Dental Society, and was as wholly innocent and ignorant of the necessities of the case as very many of my dear enthusiastic friends have been since then. We had gone far enough to inspect the teeth of the school children in a rather wide survey and when we found that in some instances there were 97% of the children who were in need of dental service, we were properly scandalized and vowed that something must be done about it.

We established free clinics in several of the schools, the children in which seemed to call most urgently for such service. We received the equipment from the dental supply people who are always co-operative with the profession in any worthy cause. The clinics were manned by volunteer members of the dental society who were good enough to donate their service at stated intervals to perform the necessary operations. In this way we began work in three schools with four equipments, two of which were in one school where the need seemed most urgent.

I shall never forget the elation I felt when these clinics were once in operation. Here was a solution of our problem, and I was naturally to have no more trouble as Chairman of the Commission. I soon found that the trouble had just started. There was never a meeting of the society that I was not obliged to go before the body and beg for something. Maybe the personnel of volunteers was slipping, maybe the supplies that were supposed to be furnished by the society were running low, maybe this and maybe that. Let no one ever charge the profession with dereliction of duty in my presence. I still have the most grateful recollection of the loyalty

and co-operation of those men of the Chicago Dental Society.

Finally one day Mr. Julius Rosenwald of blessed memory came to my office and said: "Doctor, I hear that the dental clinics in the schools are greatly overcrowded and that the children cannot get the service they need. How much would it cost to equip six additional clinics so that there might be ten in operation?"

To his amazement I said, "Mr. Rosenwald, I am not sure that I favour the equipment of these clinics." He said: "Doctor, I don't understand you. That was what I supposed I came to see you about." Having in mind the difficulties we were experiencing in carrying on the clinics, I said: "Let me make myself clear. I am not in favour of equipping any more clinics unless I can see them properly maintained." He caught the point at once and remarked that I was right. "By the way," he said, "what would it cost to maintain those ten clinics?"

The result was that Mr. Rosenwald equipped the additional clinics and paid the salaries of ten operators, and I have never ceased to bless his name. Finally he wrote me one day that it had been a great pleasure for him to aid in this work, but he felt that to make it permanent it should be transferred to the city council where it properly belonged. The idea appealed to me and this was finally done. After all these years I was still innocent and ignorant, and when the clinics were turned over to the council I felt that the service was secure and so I resigned from the Commission.

At the very next meeting of the finance committee of the city council I got an earnest appeal from my successor on the Chicago Dental Commission asking me to appear before the finance committee and make a plea for the continuance of the dental clinics. It had developed that there was some doubt of the

clinics being continued. When the matter was brought up before the finance committee I was requested to speak. It was not long before the chairman of the finance committee and I were in an argument, and I ultimately committed a grave indiscretion. After a certain amount of haggling over it I finally lost my temper and said to that august body: "Gentlemen, I never was more embarrassed in my life. Here you are, the representatives of a city of several million people and you tell me that you cannot appropriate the meager sum of \$12,000.00 a year to take care of the teeth of the underprivileged children of your city." And I fear that I said some more things not altogether temperate or to my credit.

Ultimately there was a compromise whereby a limited appropriation was made, but to-day I would not have the courage to look into the situation and find out the real status of those clinics. In all probability there is not a member of the present city council of Chicago who could give you any facts about the laudable efforts that were at one time made by Mr. Rosenwald to establish a dental clinic for the school children of Chicago.

I am not censuring any one, I am merely stating some facts; and in this recital of my own experiences I am simply portraying some of the manifestations of human nature. To-day I am still willing to acknowledge my ignorance of many of these things, but I think that in the sum total of my long experience I am not quite as innocent as I once was.

#### DENTAL CO-OPERATION

The dental profession in the past few years has been particularly solicitous to co-operate with the community in the way of dental care, and many plans have been suggested to meet the situation. If any one of them has been fully satisfactory I have failed to find it out. I do



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not mean by this that all plans have been a failure. Many noble men and women have devoted their best energies unselfishly and not without a certain measure of success to the alleviation of suffering from dental ills. All honour to the splendid representatives of the profession who are sacrificing their personal interests for the public good. I cannot speak in terms too high of those who are eschewing personal emolument and devoting their lives to the service of their fellowman, and particularly when their fellowman belongs to the underprivileged class. No nobler work than this is ever performed, and when the sum total of this contribution to the public weal by members of the dental profession is measured in terms of philanthropic achievement the dental profession need not hang its head when the question of human welfare is under consideration.

I could mention enterprise after enterprise, movement after movement, emanating from the dental profession all aiming at the amelioration of the dental ills of the people, and when the story is all told I think that the responsible members of the community might be surprised if they ever took the trouble to read the story. We are fond of saying that the surface has only been scratched, and this is true, but let us ask how far any profession has gone in coping with the ills of humanity? Is dentistry conspicuously a failure in its community service? I hardly think so. And if there has been failure, let me ask if the entire fault or the whole responsibility has been attributable to dentistry? I intimated at the very beginning that if there had been dereliction of duty the chief onus must fall on the community and I still contend for this idea.

But now let us see if there is not some common ground on which the community and the profession may co-operate. The splendid work of the Forsyth Infirmary in Boston and the Eastman in

Rochester, established by philanthropists of broad vision and noble purpose, have been conspicuous in dental and community history.

The outstanding work in Europe where clinics have been established in different cities under the Eastman endowments and organized by that master executive Dr. Harvey J. Burkhart have been an object lesson to the world. Wherever they have been established they are recognized as benefactions of a high order, yet we must realize the fact that in each instance the service is of necessity confined to a single city or community. Thus there is no such thing as a universal or widespread philanthropic dental service through this agency.

An activity that stands out conspicuously for its wholesome effort and gratifying results is the work that is being done in Hawaii among the school children of that Territory. Time will not permit of a detailed reference to this enterprise, yet in view of the peculiar difficulties encountered and the most laudable effort that has been put into it I feel that some reference should be made to it.

In a mixed population such as is seen in Hawaii it seemed inevitable that the teeth of the children would fall heir to much disability, and this proved to be the case. The condition of the teeth of the school children was found to be deplorable and the same generous impulse that has animated the minds of such philanthropists as Rosenwald, Forsyth, Eastman, and others took possession of Mrs. George R. Carter of Honolulu and induced her to come to the rescue of the children of Hawaii. This was in 1920 and the contribution of Mrs. Carter in connection with the vision and loyalty of those that she gathered around her as well as the sympathetic encouragement and co-operation of the civic authorities has made a wonderful showing in im-

proved dental health which always means improved general health.

This whole movement has been outlined in some detail in a comprehensive paper presented before the American Association of Dental Hygienists at San Francisco in July, 1936, by Helen M. Baukin, Territorial Supervising Dental Hygienist, in the Department of Public Instruction. Miss Baukin has devoted the best energies of her life for many years to this work and has been largely instrumental in furthering the success of the movement.

With the work in Ontario and Canada you are much more familiar than I. Unquestionably this country has done its allotted share on behalf of the community. The splendid men who have directed the dental affairs of the community have been sufficient guarantee that the work has been as well directed as was humanly possible. We have only to mention the names of Dr. Fred J. Conboy and Col. Walter G. Thompson in the Province, and of Harry S. Thomson in the Dominion, to say nothing of the many others who have given of their time and energy to the work. I cannot conceive of better men than the names here mentioned for this kind of service. It would be interesting, if it were possible, to sum up the net results of all of this effort.

I doubt not that it would be found very much worth while, yet it would require greater temerity than I possess to claim that even in a meager way the teeth of the community are being at all adequately cared for. If this is true, the natural question arises, how shall this problem be solved? I am far from suggesting a remedy but I venture to indicate a few of the things that seem to me

necessary before the ultimate of accomplishment can be reached.

#### EDUCATION

I do not entirely absolve my profession of all responsibility in the matter. I think that dentists might have done more than they have, but as I have already intimated I think that the chief responsibility must be placed not on the profession but on the people.

First there is one outstanding obligation that devolves on the profession, and that is the necessity of educating the public as to the significance of the teeth and the most improved method of caring for them. I have frequently stated that in the operation of the various dental clinics, one of the chief benefits was educational. In every possible way we need to enlighten our citizens on the subject of dental hygiene, and in particular we should instil in every parent the conviction that he owes it to his child to see that the child's physical welfare is properly safeguarded by the preservation of the teeth. Never shall we reach the utopia of proper and adequate dental care till the parents or guardians of the community are schooled into its necessity. This seems to me our greatest hurdle, but I have the faith that when this conviction becomes strong enough, the ways and means for its actual consummation will be found.

It will not be found by merely wishing that it were so. Sacrifices of all kinds must be made in any achievement of this nature, and the pledge I am willing to make at this time is that the moment the community demonstrates its wholehearted willingness to assume its legitimate share of the obligation the profession will meet it more than half way and co-operate in accordance with the best traditions of our craft.

# Some Criticisms of Haphazard Diagnoses

by ANDREW J. McDONAGH, Toronto, Ontario.

HAVING seen so many cases where teeth were extracted upon the advice of physicians and dentists, with nothing but grief as a result, I have decided to accede to the request of a number of my dental friends to write this short paper.

During the course of many years, variations in viewpoint are bound to occur in any profession, and this is particularly true of dentistry because, as a profession built upon scientific data, dentistry is not old, and, not being old, many changes are likely to be made in its doctrines.

This is an important phase of dentistry which we should consider carefully. It has a great effect upon the service rendered to the dentist's patient. Those holding extreme views can do a great deal of harm, temporarily, but such extreme views are necessary, apparently, in order to obtain a proper balance.

For instance, when I first started in dentistry not one reputable dentist in a thousand would acknowledge that treatment would have any effect in curing what was then called "Rigg's Disease", or "pyorrhea", whereas to-day you will find very few dentists who do not believe that proper treatment will result in curing any case of "pyorrhea", or as it is now called periodontoclasia, provided the disease is discovered early enough. Of course "early enough" with one man may mean a hopeless condition for another, but the fact remains that, now, quite universally, dentists either treat their own periodontal lesions, excepting perhaps in difficult cases when the patient is referred to a periodontist. This change has been brought about by the dental profession learning of the results that periodontists regularly obtain.

In the same period of time which it has taken to create this viewpoint very serious thought has been given to the subject of the filling of root canals of so called "dead teeth". I'm sorry to say that the results in this instance have not been so satisfactory. One reason, perhaps, for this is that there are no dentists limiting their practices to root-canal therapy. But there is a much greater reason in that all devitalized teeth have been condemned by a number of the medical profession who do not know the possibilities of dentistry, and who have been able to dominate some members of the dental profession because the latter were not sure of their ground. This condition of affairs has certainly been unfortunate, to say the least, for the "trusting" patient.

There is still another factor which looms large in this discussion, viz.: that to properly fill a root canal with material which will preclude the possibility of infection requires work and patience, and is much less lucrative than extracting the tooth and replacing it by a so-called "removable bridge".

We, as dentists, have learned to use the x-ray for diagnostic purposes, and have depended upon it much more than is justifiable, and some of us who have not had a great deal of experience in reading x-ray films are making a diagnosis and prognosis from such x-ray pictures which experienced operators find hard to justify. Of course no professional man would deliberately make a false diagnosis from an x-ray film to justify an operation. Taking that for granted it leaves one wondering how some diagnosticians come to the conclusions they do.

Now let us return for a moment to root canal fillings and x-ray readings concerning them. It might be said that the writer of this article, since he does not fill root canals or treat devitalized teeth, would not be in a position to express an opinion, but such an experience as one obtains in doing x-ray work for dentists for twenty-five or thirty years should be of value to the dental profession. Basing my authority upon this fact, and upon the fact that I have done a great deal of research work and examined work done by others, I have no hesitation in saying that if a dentist will take the time and trouble to remove the living pulp properly, and fill the pulp canals properly, that a tooth so treated is as safe in the head as any vital tooth, and if it becomes septic it is the dentist's fault. But if a tooth has a septic area of standing, then the filling of the root canal with copper, or anything that I have seen, of itself is not likely to be successful. By this I do not mean to say that some dentists do not clear up septic conditions at the apices of roots. X-ray examinations seem to indicate that at times they do, probably depending upon the method used and the extent of the infection.

One thing is sure, from the evidence I have seen, and that is, that copper amalgam cannot be expected to destroy a granuloma, or clean up a septic area. If such a result is desired, some other means must be used. Copper amalgam has only a bacterioidal effect when its influence can travel in a straight line from the amalgam; it will not turn a corner any more than a ray of light will.

A short time ago a man recognized extensively for a number of years as a research worker and bacteriologist, made a statement before the Toronto Academy of Dentistry to the effect that all devitalized teeth were a menace to the health, notwithstanding the fact that he told me

that same night that he did not know the effect of copper amalgam in the roots of teeth, nor had he had an opportunity of examining the work done at our College here on copper amalgam. His word was taken as gospel by some conscientious, honest dentists, and it did a great deal of harm. The other side of the picture was not presented to them.

It is a well-recognized fact, although unfortunate, that a great many persons, including dentists and physicians, are inclined to follow the path of least resistance, and to seize upon any fact which apparently justifies them, but it is not necessary to enlarge upon this subject at present.

Good teeth, so sacrificed are often replaced by so-called "removable bridges" which were called "clasp-plates" when I was in general practice. These quite frequently cause the loss of the teeth to which they are clasped. These plates are, in fact, a great source of revenue for the periodontist and the periodontist's services are of less value to the patient here than in the rest of the mouth. Some clasp-plates of course do much less harm than others.

In making the above statement one might think that I was discouraging the replacement of lost teeth; on the contrary, my work is very greatly helped by having all spaces in the mouth resultant therefrom, eliminated by properly-made fixed bridges, removable bridges or, in exceptional cases, so-called "removable bridges".

Up to the present we have been talking about honest dentists who may have been led away by false teaching, or influence, and who have been in touch with honest physicians. But what would you say of a doctor who insists that every patient who comes to his office must let him x-ray his teeth, (no matter whether the patient's dentist has already x-rayed his teeth or not) and who makes a diag-



ANDREW J. McDONAGH

nosis in practically every case that a number of teeth with which nobody but himself can see anything wrong, must come out, and this notwithstanding the fact that his x-rays are very poor indeed? I have seen cases where this doctor condemned teeth the x-rays of which did not even show their apices. Furthermore, if that same patient goes back to him in a few months,, not having had extracted the teeth originally condemned, the doctor is apt to forget the ones he first condemned and mark another lot for extraction. I believe, for a time, this physician had trouble getting an exodontist to work with him. Fortunately, a number of his patients got into the hands of another physician who made a proper diagnosis; they got well and still retain their teeth.

There is another radiologist who is more often correct in his diagnosis, but who is over anxious to get all possible chances of infection eradicated in short order. This man will advise the extraction of four or five teeth when one only is at fault.

Of course, any diagnostition is apt to make a mistake at times. For instance, I had a case presented to me almost six weeks ago, sent by the family doctor. There had been a swelling of the left wrist, evidently involving the joint for some months. The x-ray operator said that four teeth had to be extracted. However, I found that a root of an old tooth in the jaw, which had not been noticed, was septic. I suggested this tooth be extracted and the area treated. This was done, and the swelling is all gone and the patient still has the four teeth.

Another case, a brother of a dentist, was advised to have five teeth out. His brother objected and sent him to me. His trouble was diagnosed as rheumatism.



I examined the teeth, and as nearly as I could see they were perfect. He changed his doctor and his rheumatism disappeared after a short course of treatment; and so it goes on from day to day, Just because we know that septic teeth will cause all sorts of constitutional complications, we must be very careful in making our decisions, and must not forget that the gingival tissues, when infected, are a greater menace than are many unhealthy, devitalized teeth.

Now what about pulp stones? In the great majority of cases I believe pulp stones do no harm, but there are some instances where they do harm. An article, a short time ago recorded a number of cases which had been troublesome and when the affected teeth were removed and the pulp opened up, the pulps were found to contain live organisms. These were selected cases, and everyone of them had been giving trouble before being extracted. True, that fact was mentioned, but many dentists did not notice it, and came to the conclusion that all teeth with

pulp stones were a source of infection because, in the article, mention was made of the fact that each pulp contained micro-organisms. Let me call your attention to the fact that work we did in St. Michael's Hospital Dental Clinic a few years ago corroborated the results of work I did on over eight hundred extracted vital teeth, many of which, apparently, after careful examination, had not a break in them. Let me call your attention, I say, to the fact that over 60% of them contained living micro-organisms, and also note that Rosenow stated that he could inject micro-organisms in the

blood of a dog and in a very short time find those organisms in the living pulps of the teeth. So, therefore, we cannot be justified in saying that pulp stones are a source of infection. As a matter of fact, I found less infection in degenerating, partly calcified pulps, than in large, apparently healthy pulps. But if we do suspect a tooth of having pulp stones (and this is usually done through x-ray pictures) it is quite as easy to remove the pulp if we desire to do so and fill the root canals by modern methods as to do it for a tooth which has no pulp stones.  
*2 Bloor Street East.*

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## *Application of Heat or Cold*

by F. W. SAUNDERS, D.D.S., Montreal, Quebec.

*(Presented at Symposium on Oral Surgery, Twelfth Annual Fall Clinic of Montreal Dental Club)*

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**W**HAT are the symptoms indicating the external application of heat or cold? May I be permitted to add the words "to the face to relieve pain or swelling."

To answer the question bluntly, I might say all abnormal symptoms require the application of either heat or cold to relieve pain or swelling.

Heat and cold are nature's two great healing aids, some men practice the healing art with the aid of these two agents only. In fact a few years ago some men practiced with the aid of hot and cold water alone, and in the Old Country large buildings known as hydros were erected.

Heat or cold will ultimately give the same results, that is explained as follows; intense heat will cause a burn, intense cold will cause exactly the same kind of a wound, theoretically then heat or cold may be applied externally to the face to relieve pain or swelling. However, different degrees of heat and cold have

different effects, heat causes a hyperemia, so does a mild form of cold, you know that cold air or cold water causes a redding of the skin; continued application of cold water, however, causes a constriction of the arterioles. Both heat and cold are at times soothing and again both are at times irritating. Continued remarks such as this, however, lead us nowhere.

If a patient presents himself with a painful or swollen face, or both, and has been applying heat without relief, advise cold, or vice-versa, and you will be surprised how clever you are. If the patient has had previous professional advice never declare the other man to be wrong, because which ever he advised he was justified and perfectly right.

From now on I can only tell you what I advise, under certain conditions, and why. Following the use of novocain in exodontia or for any mouth surgery, I advise the application of cold compresses,

not icebags, to the surface overlying the seat of injection and operation. I do this because I know cold is applied in cases of frost-bite and adrenalin has a somewhat similar action on the blood vessels, as does frost-bite, anyway, and in any case the results of the cold compresses warrant one in advising their use. I advise the patient to apply these cold compresses forty minutes on and twenty minutes off or until their application becomes annoying. The duration of application, however, varies tremendously in different patients.

In the last thirty-nine cases of removal of difficult impactions done by me, in the hospital, under avertin anaesthesia, followed by continuous cold applications, I have not had to touch the wounds in thirty-five of these cases, and there has been practically no pain and no swelling. This is not due to any special technique. Three factors contribute, asepsis, complete muscular relaxation during and following the operation, and cold applications.

If there is apparent pus present in the soft issues of the face, I advise cold to the outer surface, and heat, hot mouth washes, to the inner surface, in the endeavour to cause a possible evacuation of pus on the inside.

Heat, dry heat, such as furnished by infra red rays, applied to the external surfaces seems to soothe, but the relief seems to be temporary; in other words, soothing while being applied. May I caution you here that infra red rays may be applied to blondes for not more than five minutes; brunettes seem to be able to

absorb an unlimited amount.

Heat, I think, tends to reduce swelling caused by trauma.

Heat, in the form of short-wave, causes an increased leucocytosis and should aid in the elimination of infection.

I have often said to my patients to apply cold to prevent swelling, and heat to reduce it if cold has failed to prevent it.

Trismus is a condition that sometimes confronts the dentist, and varied indeed are the recommendations for its relief. If you are in a community where short-wave is available, the results of its application are encouraging. Short-wave therapy is quite different from ordinary heat, it definitely relaxes muscular tissue. Rest is another factor that aids in the relief of trismus. Never attempt to stretch a muscle when trismus is present.

In the preparation of these few remarks, I ventured into the Physio-therapy Department of the Royal Victoria Hospital, and I found ample material. I had entered a field that would require years of study to unravel, yet another study that could well be added to the dental curriculum, a field that dentistry could well apply to the relief of suffering.

In conclusion: Both heat and cold give relief to pain. In most instances cold tends to avoid swelling and heat tends to abort swelling. When pus is present heat should not be applied externally. Heat, short-wave, and rest advisable in treating trismus. Cold applications advisable following trauma.

*1414 Drummond St.*

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### *Reprints of Portrait of the late Dr. A. E. Webster Now Available*

We have had printed on heavy coated paper a number of copies of the portrait of the late Dr. A. E. Webster, which appeared in our November issue. These can be had at 50c per copy, to cover cost and mailing of same.

Write to The Journal of the C.D.A. — 73 Richmond St. W., Toronto.

# Toil and Trouble\*

by LESLIE G. ROBINSON, Peace River, Alberta.

IT IS the middle of a long afternoon. The next case is a simple extraction (?) of the average type, perhaps a lower second molar. The anaesthetic is injected, and everything seems favourable to getting it over in a few minutes, leaving the operator a short period of rest before the next appointment. The forceps are applied and, (we've all experienced it) the crown collapses with a most dismaying crunch, leaving the root tops flush with the alveolar surface. It is just one of those moments that make the rest of the day pleasant by comparison.

Just what are we going to do about it, and how are we going to do it? Books have been written about the actual technique of removing the alveolar plate, exposing the roots and tipping them out, and we are not concerned here with that part of the procedure. We are, though, or should be concerned about what is to happen after the task is finished.

Of course, the specialist in oral surgery is prepared for this situation. He proceeds to isolate the field, as far as possible, with sterile gauze; his thoroughly aseptic instruments are used to resect the flap, remove the necessary alveolar plate, tip out the roots, and replace the flap, suturing if necessary. The area is dabbed with an antiseptic, and the patient dismissed with an ice pack, to face a not too unpleasant evening. At least, so it should be. But in the office of the general practitioner, perhaps not so adept at oral surgery; not prepared with sterile equipment, and with insufficient time to sterilize for twenty minutes before each extraction case on the off chance of com-

plications arising, the story may be vastly different, and often is.

Being rather interested in the subject, probably because of painful memories, the writer made up a questionnaire of some thirty-odd questions. Copies were printed and sent to each of about ninety to a hundred well established practitioners throughout Canada, from Halifax to Vancouver, with the hope that twenty or thirty of them might be sufficiently interested to fill in the answers according to their own experiences. It seems that others are more than interested in the subject too, for over fifty questionnaires came back, often accompanied by long letters, requesting that the investigation be carried on, and the resultant material made into the form of an article. As one of the unfortunate individuals seeking information on this subject, the writer feels particularly unfitted for this task, and presents herewith not so much his own ideas, but rather the best of those taken from the almost overpowering mass of material sent in. After tabulating the answers as far as possible, several points appeared to be in need of further consideration, so a second list of questions was prepared and sent, this time, to a few oral surgeons, as well as to some specialists in bone surgery, and in eye, ear, nose and throat work, in the United States and Canada. Several of these men were good enough to contribute valuable information, and it is with the belief that others may find this compilation of interest, that the material is presented for your consideration.

The first questionnaire dealt with

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\*Dr. Robinson will welcome correspondence on the subject.—Editor.



LESLIE G. ROBINSON

preparation for, and injection of, local anaesthetic; the care and sterilization of instruments, including syringes and needles, sutures, etc.; efforts at asepsis during the operation; and post-operative complications.

A great variation in methods was observed from the tabulated results on many questions. Some unanimity was shown on certain much discussed points, but methods of procedure in the most troublesome type of case showed no definite, common plan. It has been necessary to take into consideration, that, in some cases, answers to the questions would be dictated by the operator's thoughts as to what *should* be done, not necessarily by what he does in his own practice. With this in mind, and also the fact that this questionnaire was sent, for the most part, to selected, well established general practitioners, it should be interesting to examine some of the points raised, together with comments thereon.

We learn that the use of carpules, or novampules, is almost universal. An occasional one uses solution made fresh from tablets, only; some use fresh solution for conductive, with the light, all-glass syringe, and carpules for infiltration, preferring the lighter syringe for the more delicate injections; one or two refill their carpules with freshly made solutions, and a few use solutions from the prepared, rubber-stoppered bottles for conductive.

Most of our correspondents warm their solutions to approximate body temperature, before injection. About one-quarter of those replying attach no importance to this point.

Carpules which have been partly emptied are saved for subsequent use by about half of these men, and most of



them consider that re-sterilization of these used carpules is unnecessary.

Topical anaesthetics are used by most operators to avoid the pain of needle puncture, followed, in most cases, by mercurochrome or iodine, as the topical agent is not an efficient antiseptic.

Pre-medication seems to be passed up by most of us, although a few use nembutal or sodium amytal in nervous cases. One remarked, in answer to this question, that he no longer used such drugs because one of his patients became so "hazy" that she got lost going home. He had given up the use of anything stronger than anacin.

The time required for the administration of two c.c. of solution varies greatly in the hands of these men. Out of fifty replies, seventeen require from two to thirty seconds; fifteen use from thirty to sixty seconds, and the balance from one to twelve minutes!

As a matter of common interest, with possibly some bearing on the question of post operative effect, information was

asked as to the degree of success achieved in the use of the three commonest conductive injections. The majority find from five to ten percent of failures in the mandibular at the first attempt, with from none to two percent on repeated attempts. With the tuberosity, failures drop to from non to five percent, with no failures after repeated attempts. Twelve of the fifty never use the mental. Others find from five to thirty percent of failures at first trial, with from two to ten percent after repeated attempts.

Injection into inflamed tissue has always provided a live subject for discussion. Practically all of those consulted stated most emphatically that they never inject into inflamed areas, preferring to defer operation, or use general anaesthesia, or, if necessary, infiltrate into surrounding areas, using conductive where possible. Such unanimity of opinion must have been inspired by memories of sad experiences along these lines.

In connection with the sterilization of instruments used in mouth surgery, we find that twenty of the fifty sterilize all instruments immediately previous to use, as routine procedure. Some few sterilize after use, leaving the instruments wrapped in the gauze in which they were sterilized until required again. Some sterilize in advance only in case of multiple extractions, or anticipated surgical cases. Many methods are advanced for the care of needles and syringes. After sterilization, some are kept in solutions; some in formalin sterilizer; some thrust the needles into short lengths of sterile cotton rolls; others dip needles while hot into medicated vaseline; one operator has fitted a cabinet drawer with rubber strips to seal in gas generated by formalin.

All of the fifty operators sterilize all instruments after use, most of them placing the instruments in cabinet drawers on unsterile linen or trays, using them directly therefrom without further sterili-

zation. Some, perhaps with uneasy consciences, dip the beaks in alcohol or other antiseptic solution before use, or have the assistant wipe off the beaks with gauze moistened with such solutions, before and during use. Some few dip the instruments into boiling water, and one or two are satisfied with holding the "business end" of the instruments under hot tap water. During the course of lengthy operations, most of these operators lay their instruments on the operating tray or cabinet, on fresh, but unsterile linen, some mentioning that the the operating ends of the instruments are laid over the edge of the tray so that they touch no contaminating material. Those operators who sterilize everything in advance for each case, of course use sterile linen and trays throughout. The replies generally indicated that almost all of those questioned, recognize the fact that all instruments, coming into contact with broken tissue, should be sterile, or rather, free from contamination from sources other than the tissue itself. The efforts being made to bring about that condition, most certainly are inadequate, in the majority of cases. Considering that the question of post operative complications is vitally connected with this phase of our work, it would seem that much greater attention must be given to improvement of our methods of operating aseptically, before we may feel free from all blame for those harrowing days of agony that follow some of our difficult extractions. In one well and favourably known dental school recently visited by the writer, one was struck by the appearance of the students entering their operating cubicles, wearing white gowns and rubber gloves, and carrying aluminum trays with instruments lying on gleaming linen and covered by more of the same, all fresh from the sterilizing room. Covering towels were removed, the syringe and needle lifted from the linen, and the operation

carried through, instruments and syringe being replaced on the linen from time to time. However, the entire effect was ruined, when a visit to the sterilizing room was interrupted by the entrance of the negro porter with an armful of sterile (?) linen, fresh from the steam laundry, the top two towels of which were used to fit out the next tray. Believe it or not!

Of our fifty operators, over twenty used pellets of cotton not previously sterilized for swabbing out sockets. Most of these twenty rolled the pellets from the cotton in the cotton holder, as required, with the fingers. - However, a real effort is being made by several of our correspondents who have not access to an autoclave, to achieve adequate sterilization of linen for these operations. Various methods include sterilization in gas ovens; double boilers; pudding steamers; electric sterilizers, etc. Some are fortunate enough to have their own autoclaves or to have the use of such machines in a nearby hospital.

The opinion is almost unanimous that distorted alveolar walls should be pressed back to place, and not removed, although some few advocate the latter procedure, giving as reasons that the pressure exerted in so distorting the walls compresses the bone, and so pinches off the nutrient blood vessels. Almost all use rongeurs and files for trimming sharp edges of alveolus, spicules of bone, etc. The routine use of sterile gauze, where possible, to wall off the field of operation, is mentioned by sixteen of the fifty.

Following extractions, thirty-one of this group attempt to protect the socket from contamination by saliva or other material until the socket has filled with blood, as routine procedure. One teacher recommends a mixture of creosote and iodine, half and half, to promote coagulation, and states that a clot so formed will not dissolve out. One or two state

that no attempt is made to protect the socket from saliva, believing that saliva is a natural antiseptic and coagulator. Many make no attempt to protect the socket, giving no reason. However, a very large majority permit no rinsing of the mouth, or sucking or drawing on the area until the clot is well set, i.e., for a period of from two to six hours.

Sutures are used by most operators, but a strong tendency toward modification in their use is noted. Those who use them keep them, threaded on their needles, either in antiseptic solutions, or in their original sealed tubes.

From two to five percent of severe post operative complications seems to be the average expected, following extractions. Dry sockets, of course, are the most troublesome, a few mentioning hemorrhage, lower third molars, severe inflammation, etc., as predominating. Some operators experience as high as ten percent of dry sockets, although one specially favoured individual stated that he had had only one dry socket in his entire experience as a dentist, and that one was the result of an extraction performed by some other dentist—probably by one of us less favoured mortals. One well-known and successful oral surgeon and teacher states that he does not remember having a dry socket in the last ten years, remarking that he attributes his success in that respect to routine protection of the socket until the clot has fully formed. Incidentally, he is one of the twenty who uses aseptic methods throughout.

Replies to the question concerning treatment of dry sockets varied greatly in almost all of the fifty questionnaires. Truly our correspondents have been in trouble, and have sought frantically for a way out! Ice bags; polaris; hot packs; ultra violet; diet; irrigation; lancing to induce secondary hemorrhage; vita-cell; BIPP; medicated gauze packs; anti-



phlogistine; hot foot baths; suturing margins together; wonderpak; peripak; open and probe for, and remove sequestrum; curetting; soketol; healatone; guaiacol; iodoform gauze wick; campho-phenique; etc., etc., down to the bitter end, wherein two of our operators, no doubt in despair, recommend the hospital.

In reply to the query as to what causes the majority of dry sockets, in the opinion of the operator, many believed that they are due to infection already present before the operation is performed. This seems a convenient way of wriggling out from under the blame, although it is undoubtedly true that certain pre-operative conditions may pre-dispose to, if not actually cause, dry socket.

So we come to the end of a résumé of the results obtained from the first questionnaire. Apparently much confusion of mind exists in connection with these matters, but it is equally evident that a strenuous effort has been, and is being made to secure better results. Some few have shown that such troubles as dry sockets have been almost entirely eliminated from their practices, and give their reasons for the results achieved, as they see it. We are grateful to these men for freely offering what they have learned from their experiences, and also to those who have not yet been so fortunate, for the frank contributions from their store of knowledge, in order that others may benefit.

Several points remained, after consideration of this material, which suggested that opinions from recognized specialists might be of much value. As previously mentioned, a second list of questions was prepared and sent out, and we continue with suggestions and opinions offered by those who replied.

There seems to be a general agreement that anaesthetic solutions should be prepared at approximate blood heat in all

cases, most especially in the presence of inflammatory conditions.

Topical anaesthetic solutions may be used, with reasonable care, and should be followed by an antiseptic of the relatively harmless type, as two and one-half per cent iodine, metaphen, or mercurochrome. All of these solutions destroy tissue to a certain extent. However, as one specialist expresses it, any such ill effect is preferable to the chance of infection from a septic field.

Pre-medication by the use of such drugs as sodium amytal, nembutal, etc., is of a distinct benefit in all cases where the patient experiences much apprehension, and in such cases pre-disposes to less shock and a better mental condition during recovery.

The second questionnaire also dealt with the question of suspension of needles and syringes in antiseptic solutions. The replies from this group of operators showed a definite tendency to avoid the use of such solutions, with a preference for asepsis, rather than antiseptis. However, although some believe that even minute quantities of such solutions which may be injected inadvertently through needles, might cause serious disturbance in the tissues, the general opinion seems to be that if some of the anaesthetic solution is forced through the needle before injection, there is little danger of damage to the tissues.

Injection into inflamed areas is frowned upon severely by this second group of surgeons, as well. One opinion was expressed that light injection may be made directly over the line of proposed incision where lancing is indicated, when followed by free drainage, but others feel that even the smallest amount of injection is likely to force the infection beyond the circumscribed area. One surgeon states that injection into the surface tissue for lancing a quinsy is a common procedure, and is followed by no dis-



turbance. One operator states that if the abscess is well localized, he has no hesitation in injecting into the *surrounding* tissue, producing anaesthesia of the affected area by infiltration. Infiltration into an inflamed area, that is, injection directly into the seat of inflammation, followed by extraction of the tooth, is generally believed to be definitely dangerous. Not only osteitis of the socket, but a general osteomyelitis of the process may follow.

Sterilization of instruments mentioned to this second group brought opinions in no uncertain terms. These men use no antiseptic solutions for their instruments or needles at any time, and rely upon full sterilization by boiling in all cases. The opinion is expressed that instruments left in antiseptic solutions for fifteen minutes or more may still remain not completely sterile, and that if one uses that amount of time for sterilization by such means, it would be much better, and more certain, to use the boiling method. Antiseptics used for any less time are simply an excuse to soothe the conscience.

Some operators of the first group suggested that distorted walls of sockets, having been compressed by force during the operation, might pre-dispose to a post operative osteitis. This idea is not followed by the second group, who definitely agree that distorted walls should be pressed back to place and left intact, if not broken away from their attachment to the alveolus and periosteum. However, one or two point out, that compression caused by extreme force may be sufficient to rob the bone of some of the blood supply, thus contributing to post-operative complications.

Different ideas are given as to the commonest causes of post-operative osteitis, or what is generally termed "dry socket". The symptoms of this condition, mentioned by Cahn (1) are "pain,

continuous, usually forty-eight hours after operation. Socket shows no sign of healing. Swab introduced brings out dirty brown coating, smelling vilely. Patient haggard from loss of sleep, pain and anodynes. Cause is infection of alveolar process forming the tooth socket, and immediate pain due to infected neuritis of the "process nerves". We find less unanimity of opinion among the second group that dry sockets are usually caused by a pre-operative condition. The head of a large hospital clinic, and oral surgery instructor in a university, feels that routine practise of asepsis, with isolation of the field, as far as possible, followed by instructions to the patient to avoid disturbing the area while the clot is forming, has practically eliminated dry sockets from his work. This opinion, expressed by an operator of long experience, who has experienced trouble with dry sockets in previous years, would seem to discount somewhat the opinion that most dry sockets are due to pre-operative conditions. Members of the second group are unanimous in the opinion that infection introduced by septic instruments, or by means of improperly prepared anaesthetic equipment, is a prolific source of most post-operative trouble.

Flushing of the field during prolonged, difficult cases was mentioned in replies to the first questionnaire. Some of the first group, as well as most of the second group, believe that this method is unnecessary, but it is not condemned by any. Some believe that the hypertonicity of the saline solutions used could cause only a beneficial result, if any at all.

The old discussion as to the benefit of saliva coming into direct contact with an open mouth wound produced some difference of opinion. Most operators of both groups believed that the wound should be protected from saliva at all costs. A few in both groups take no precautions whatever to prevent saliva

from getting into the wound, protesting that saliva is an excellent natural antiseptic, and that it promotes coagulation. However, it is quite definitely known that saliva carries living, virulent bacteria, which may be kept under control on the unbroken surfaces of the alimentary canal, but which, introduced into a fresh wound such as an open socket, particularly in contact with raw bone, may cause a serious infection. If saliva could produce the advantageous effect claimed for it by the above mentioned men, it would seem that a valuable therapeutic agent for the dressing of bone wounds generally has been overlooked, yet one can imagine with what feelings the bone surgeon would receive the suggestion that saliva should be so employed as routine treatment.

The question of treatment of open sockets in which insufficient hemorrhage has developed to protect the bone, aroused little difference of opinion among the second group. Patented preparations which occupied a prominent position in the replies to the first questionnaire, have little or no place in the work of the second group. A light gauze dressing, coated with vaseline, is the generally preferred treatment. If necessary to alleviate local pain, a few drops of an anodyne, such as equal parts of guaiacol and glycerine, are placed on the gauze. A few offer such suggestions as that the walls of the socket should be collapsed, suturing if required; that a pledget of cotton, soaked in saline be deposited in the socket until hemorrhage catches up, etc., but only one or two resort to patented preparations, and then only when daily observation and treatment is not possible. One bone surgeon advocates a light vaseline dressing, which he would leave in until forced out by the freshly granulating tissue.

After the dry socket has become established, and the patient returns for treat-

ment, lancing for secondary hemorrhage and clot is useless. The clot so formed would become infected and slough off. Once the osteitis has set in, there will be a sequestration of the diseased bone, regardless of treatment. The treatment may only be prophylactic and palliative in nature. As one surgeon comments, unless there is sufficient blood supply from the walls of the socket to nourish a secondary clot, the new clot will break down.

Pre-operative conditions, such as sclerotic or anaemic bone, or streptococcic infection previously present, may definitely predispose to a post-operative osteitis. In such cases, relatively few in number, the osteitis will result, regardless of care taken in the operation itself. Birenbach says (2) "In cases where one or two teeth bear the brunt of the bite, or are the only teeth left in the mouth, the lining of the socket becomes hardened with additional lime salts, producing a condensing osteitis. Periapical infection, too, sometimes produces condensing instead of rarefying osteitis."

Nevertheless, the fact that serious post-operative difficulties have been practically eliminated from the practices of many experienced operators should be proof positive that the percentage of post-operative complications caused by pre-operative conditions, as compared to those caused by improper preparation of instruments, excessive trauma, and other incorrect technique during the operation itself, is relatively small. It must be admitted, it seems, that such complications may be prevented in the great majority of cases, by the development of a more effective technique on the part of the operator.

#### CONCLUSIONS

Following a perusal of the accumulated material, the conclusions given below would appear to be worth consideration.

Since carpules are most generally used,

it would appear that the solution may be considered sterile, although if partly emptied carpules are saved for subsequent use, some means of re-sterilization must be adopted. It seems obvious that when the syringe is being used in dense, elastic tissue, with considerable pressure being exerted on the plunger, that when the pressure is released some of the tissue fluids must flow back into the carpule, thus contaminating the solution remaining in it. These partly emptied carpules should be boiled. In all cases, the end of the carpule which is to be punctured by the needle should be dipped in alcohol before insertion in the syringe. After sterilization, if needles and syringes can be protected from contamination, as in a covered glass jar, they will remain prepared for the next case. If they cannot be protected from contamination, they should at least be kept in fifty per cent alcohol. If care is taken to pass a little of the anaesthetic solution through the needle before injection, there should be no difficulty arising from use of this method.

The average time for injection of two c.c. of solution need not exceed forty seconds in normal cases. No advantage is gained by excessively prolonged injection. In abnormal cases, however, considerable advantage may be gained by the injection of one-half c.c. of solution, then waiting a few minutes before injecting the balance.

Pre-medication in cases where some difficulty is anticipated because of nervousness and apprehension, should be routine procedure. Sodium amytal seems to be the favoured drug. The improved after effect produced is valuable in promoting normal healing, quite apart from the effect on the patient during the ordeal.

Instrument sterilization, apart from needles and syringes, is, of course, the most important point. Without exception, instruments should be scrubbed after use,

and then sterilized for the usual time. It appears evident that the great majority of general practitioners then place the freshly sterilized instruments in the cabinet, upon unsterile linen or trays. Of course, sepsis is lost immediately by such treatment. Possibly there may be little harm in using forceps so treated for simple extractions where one application of the instrument suffices. A benevolent nature has provided the tissues of the mouth with the ability to throw off such slight amounts of infective material as may exist on these instruments. It is when the unexpected happens, when it becomes necessary to resort to a flap operation, etc., that trouble may, and usually does, arise. Obviously there are thousands of general operators caught unprepared by just such situations every working day. The general practitioner, concerned with fillings, inlays, dentures, etc., will not, perhaps cannot, anticipate possible trouble by sterilizing such instruments as may be found necessary to each surgery case, in advance, and is not prepared to operate aseptically. Mead says (3) "dental sepsis, as practised sometimes, is a veritable joke. If the dentist is going to sterilize some instruments, and merely wipe off others, run his hands through tap water, etc., then he might almost as well dispense with all precautions." It seems that we must recognize and accept the fact that, although the process may be ideal, the average dentist does not, and will not, prepare his equipment to operate under aseptic conditions, even in cases of unexpected deep surgery. For these emergency cases, then, where instrumentation is carried deeply into the bone tissues, the suggestion is offered that a special emergency tray be prepared and used only on such occasions. A large covered porcelain or glass tray is used, on the bottom of which is placed a sterile towel. The necessary instruments, forceps, rongeurs, files, elevators, needles threaded with



suture material, gauze, etc., all thoroughly sterile, are placed in the tray, and covered with sterile linen. The tray is set aside for emergency cases. Of course, complete asepsis, while operating in the mouth, is impossible; but precautions should be taken in the preparation of the hands, the possibility of requiring to use the hand-piece or other unsterile accessory equipment, so that new infection will not be carried to the tissues. By the use of such equipment, and following such precautions, including protection of the socket until either a normal clot or a suitable dressing is in place, we may feel that everything possible in the light of present knowledge has been done for the welfare of the patient. Too much cannot be said to condemn such practices as using cotton pledgets, rolled by the fingers from the cotton holder for swabbing sockets; laying instruments upon unsterile material during the operation; flushing the socket with tap water; touching unsterile objects such as lights, chair, unsterile handpiece, etc., during operation. Such practices were common before the days of Lister, but should have no place in modern operative procedure.

After the roots have been removed, and spicules and sharp edges of the alveolus attended to, comes the question of protection of the socket until the clot has formed. Opinion seems overwhelmingly in favour of such protection, among the operators consulted. If, for any reason, there is insufficient hemorrhage to fill the socket, a light dressing of vaselined gauze should be placed in the mouth of the socket for protection.

Birenbach says (2) "alveolar process should never be left exposed. If necessary . . . use gauze with a sedative dressing. Exposed bone becomes infected." The patient is dismissed with definite instructions that there must be no sucking or drawing on the affected area, and no rinsing for several hours. Gard-

ner (4) states "it was brought out in investigation that the patients who have dry sockets were those who sucked the blood from the sockets and spit often." Gardner also comments "Socket medication is not used in any form, since irritation, and not sterilization is the result."

Next to the avoidance of post-operative complications in importance comes the question of treatment. Cahn (1) recommends irrigation of the socket with hypertonic (five to ten per cent) salt solution, followed by Wright's physiologic method (modified sodium chloride pack). As routine treatment, following the extraction of pulpless teeth, he swabs the socket with Churchill's iodine and glycerine, equal parts, and inserts mercurochrome dressing for forty-eight hours. The irrigation method of treatment of dry sockets with the hypertonic solution is generally favoured. Practically all authorities on this subject agree that the infected bone will form a sequestrum and be thrown off, to be followed by fresh granulation, and that treatment may only be cleansing and palliative. Some recommend repeated vaseline dressings on gauze; others prefer iodoform gauze on which has been placed a few drops of an anodyne solution. Birenbach (2) recommends the use of escharotics in severe cases, as "irrigate the socket and touch the exposed process with phenol, followed by alcohol, or with aromatic sulphuric acid followed by sodium bicarbonate. The sedative or anodyne dressing is placed . . . and treatment repeated daily."

From the foregoing, it is evident that while authorities agree in a general way on the treatment of these conditions, there is some slight difference of opinion as to the use of medication, and on other minor points. There is no disagreement, however, on the argument that our greatest contribution to the welfare of our patients is to be made in connection with



prevention, rather than cure, of these conditions. Aseptic precautions have been shown to be the greatest single factor in the avoidance of serious post-operative complications in the field of surgery. When the dental profession recognizes the fact that this principle is equally important in surgery of the alveolar tissues, and is ready to act upon that

knowledge more generally than is done at present, it will have done much to elevate the profession to the position it deserves in the field of health service.

- (1) Cahn—Items of Interest, April, 1931.
- (2) Birenbach—Items of Interest, April, 1934.
- (3) Mead—Oral Surgery?
- (4) Gardner—Journal of the A.D.A. No. 2, 1929.

## Report of Public Dental Health Committee of the Canadian Dental Association

(Submitted to the meeting October 12-13, 1936.)

**P**UBLIC Dental Health activities in Canada have steadily increased since my report to your meeting two years ago.

During the past five years, Public Dental Health in Canada has been given its proper place in General Public Health in that it has become a part of the program of the Department of Health in eight of the nine provincial governments.

In every province of the Dominion, except one, the provincial government has made an appropriation in its budget for Public Dental Health educational work and Public Dental Service.

As an evidence that material progress has been made, I would like to submit herewith some figures compiled by the Canadian Dental Hygiene Council, showing how much is being spent by each province in the Dominion to promote Public Dental Health work, covering the year 1935-1936.

### BRITISH COLUMBIA:

I have been informed by Dr. Young that his Department has this year appropriated for this purpose \$20,000.00

This will include Dental Health educational work and travelling dental clinics for remote and sparsely settled districts.

To this should be added the administrative cost estimated at.....

1,000.00

Grant from B.C. Dental Association .....

250.00

### ALBERTA:

In Alberta the Provincial Government has made a grant of.....

\$ 1,000.00

Alberta Dental Association .....

250.00

Canadian Dental Hygiene Council .....

250.00

Administrative expense, estimated .....

500.00

### SASKATCHEWAN:

Provincial Government grant .....

\$ 2,000.00

Canadian Dental Hygiene Council .....

250.00

|                                                                                   |          |
|-----------------------------------------------------------------------------------|----------|
| Saskatchewan Dental Association .....                                             | 250.00   |
| Administrative and executive expenses of the Department of Health—estimated ..... | 2,000.00 |

MANITOBA:

|                                                     |           |
|-----------------------------------------------------|-----------|
| Provincial Health Department grant.....             | \$ 500.00 |
| Canadian Dental Hygiene Council .....               | 250.00    |
| Manitoba Dental Association .....                   | 250.00    |
| Administrative and executive expense—estimated..... | 1,000.00  |

ONTARIO:

|                                                                                                                                                                                                                     |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| During 1935 and 1936 an intensive program of Public Dental Health was carried on throughout the south-western section of the province, financed by a grant from the Ontario Government Department of Health of..... | \$ 1,500.00 |
| Canadian Dental Hygiene Council .....                                                                                                                                                                               | 3,100.00    |
| Ontario Dental Association .....                                                                                                                                                                                    | 625.00      |
| Royal College of Dental Surgeons .....                                                                                                                                                                              | 625.00      |
| Administrative and executive expenses—estimated...                                                                                                                                                                  | 1,000.00    |

QUEBEC:

In Quebec the Oral Hygiene Committee has been extending their efforts and are giving consideration to plans for future development. The Canadian Dental Hygiene Council has given some assistance to a group of welfare workers in the city of Montreal to establish four dental clinics in the protestant schools there.

During the past year the Provincial

Board of this province has instituted a radio program, in French, consisting of a series of addresses on Public Dental Health written by a physician from the medical man's standpoint. This program has proven to be of great interest, and these talks are to be arranged in pamphlet form and available for distribution to the dentists throughout the province. A plan is now being developed to present a similar program in English.

NEW BRUNSWICK:

In New Brunswick the Minister of Health has recently been giving attention to the establishment of travelling dental clinics throughout the province under the auspices of the Government Department of Health. These plans are now maturing, and it is expected they will go into action during the coming autumn.

PRINCE EDWARD ISLAND:

In Prince Edward Island an intensive program of Dental Health educational work was carried out during the latter part of 1934 and in 1935. As a result of this effort there has been established in the city of Charlottetown an up-to-date school clinic financed jointly by the Provincial Government of the city of Charlottetown, the Rotary and GYRO Clubs. During the past three months there has been inaugurated a similar school clinic in the city of Summerside, financed under the same auspices as Charlottetown. The administrative organization of these clinics is taken care of by the nursing staff of the Provincial Department of Public Health. The Prince Edward Island Government Department of Health in 1935 appropriated the sum of \$2,750.00 for Public Dental Health service.

MANITOBA:

There is no better evidence of the success that has resulted from the free travelling clinics that have been carried

## *Report of Public Dental Health Committee*

on in the Province of Manitoba, than the fact that the province has continued from year to year to increase its financial assistance. In order that we may show the stupendous proportions into which this work has grown, I would like to present some figures from the tabulated report received from the secretary of this travelling clinic committee.

"During the first nine months of this year, 35 clinics have been held, covering 64 schools, and 1,837 children have been operated on as against a total for 1934 of 19 clinics, covering 35 schools, and 1,185 children operated on. In addition to this, we did six days' work for the Provincial Unemployment Relief Commission, and are looking after the clinics at Brooklands."

One of the most interesting features of the entire report is the number of miles travelled—4,476. I wish we could just stop for a moment and visualize what that number of miles means, travelling by boat, by horse, in a car and sometimes on foot, to places beyond the railway lines, hundreds of miles from a dentist or a physician, carrying treatment to children who never have seen, and, if they remain in their homes all their lives, never would see a dentist or physician. Some of these are new settlers, some fishermen, others miners, and these clinics are being carried to people who are doing something for you and for me, extending our boundaries, opening up new territory which some day may be thickly populated centres.

The Committee in Manitoba is one of the hardest working Public Health Committees in Canada. Each member of this Committee is carrying on a busy practice and still he finds time—and a lot of time—to devote to the details of these free travelling clinics.

### **SASKATCHEWAN:**

I wish I had space here to show a

report of the free travelling clinics in Saskatchewan which I received in the mail. This report is so comprehensive and well tabulated that it brings you a picture as real as a photograph of the actual work accomplished. It shows:

|                                        |            |
|----------------------------------------|------------|
| Number of children treated.....        | 1,786      |
| Teeth extracted.....                   | 2,821      |
| Number of fillings.....                | 2,485      |
| Special treatments.....                | 138        |
| Total amount expended on clinics ..... | \$2,114.50 |

Close to 2,000 children receiving dental treatment! Diseased teeth eliminated, diseased mouths made healthy again, at a cost of about \$1.20 per child. Let us endeavour to visualize what this means in just this one province of Saskatchewan alone. There has not been included in this the expense of organizing these clinics, the hours that have been devoted to it by the Director of Public Health Nursing and the District Nurse as well as the Committee of Dentists, the unselfish attitude of the dentists who conducted the clinics, their patience with these young children, dispelling their fears and telling the health story to many of them who had never before seen a dentist. The Canadian Dental Hygiene Council is very glad to have had a small part in this noble work, and desires here to pay a tribute to those who have organized it and given it assistance.

### **ALBERTA:**

Under the auspices of the Department of Health and working through a lay Public Dental Committee, travelling dental clinics are being established in this province. The report of the work accomplished there has not yet been received, but I am sure from preliminary reports that it will compare favourably with what has been done in the other provinces. The clinic is administered wholly by a lay committee established for this purpose, composed of outstanding

citizens of the province who are interested in public health and public welfare. I am sure the success of this year's efforts in Alberta will inspire the Department of Health to continue and increase its appropriation for this purpose.

BRITISH COLUMBIA:

The Public Dental Health Committee of this province is closely in contact with the Minister of Health and the Provincial Medical Officer of Health, to assist and advise them in all matters of public dental health. The Government of this province has this year organized Dental Clinics through the Peace River country, the B.C. Dental Association assisting in working out this plan. Some financial assistance was given by the Canadian Dental Hygiene Council in their earlier effort. This has been greatly added to by the Department of Health of the Government, and final reports will undoubtedly show that an excellent piece of work has been accomplished.

NOVA SCOTIA:

In Nova Scotia a very energetic Public Dental Health Committee has been devoting a great deal of time for the past two years to working out plans for a complete province-wide Mouth Health educational program. In order that they might have the enthusiastic support of all of the dentists, and also to arouse public interest, at the last meeting of the Nova Scotia Dental Society, the province was divided into five sections with a chairman for each section. This will broaden out the work done—previously the Committee has been located in Halifax, and it was difficult to get the viewpoint of the province as a whole.

During the past two years a Mouth Health booklet prepared by Dr. Bundensen, of Chicago, has been distributed to schoolteachers and Public Health workers of the province, through the co-operation

of the Provincial Department of Health and its Minister.

ONTARIO:

This is the one province in the Dominion which has a Division of Dental Services in the Department of Health. The Minister of Health, the Hon. Dr. J. A. Faulkner, has manifested a keen interest in public dental health and, working under his direction, the Director of the Dental Division, Col. Walter G. Thompson, is extending these services in a very logical program. The Minister of Health and the Director of the Dental Division are convinced that in any Health Service, their first responsibility is to those who are sick or physically or mentally incapacitated. In accordance with this conviction, the Department has, during the last year, greatly extended its program of providing dental services to hospitals and public institutions. New dental clinics have been established in many institutions, and in others the services have been considerably extended by the addition of more dentists to the staff, and an increase in the number of working hours.

Their second responsibility is to the indigent and the unemployed who are on relief. Emergency treatment is provided for these by the Department of Welfare through a grant of five thousand dollars a month.

The third responsibility of the Department is the education of the public in preventive dentistry. During the past year, the Minister of Health has asked the Canadian Dental Hygiene Council and the profession of dentistry in the province to join with him in carrying out a four year program of intensive dental health education. A start has been made on this program, in the southwestern portion of the province, and the results achieved have been most gratifying. The extension of this program will be carried



## *Report of Public Dental Health Committee*

on from year to year until the entire province has been covered.

To sum up: The amount expended in all provinces gives a total of about \$40,000.00, which is being devoted to the extension of public dental work throughout the Dominion. The actual record in dollars and cents does not in any measure convey a true picture of the interest that has been aroused in public dental health in Canada during the past five years. To get a proper perspective of this we must add the tremendous amount of organization and detail work carried out by the Oral Hygiene Committee of every province, work done by busy men who have given their time and interest gratuitously, manifesting an unselfish devotion to their ideals of what the dental profession can do for the health of the general public.

The Canadian Dental Hygiene Council has had a share in the activities of every province. It has given organization assistance, some financial assistance and, more important than anything else, has been able to help greatly by making contact with the Premiers and Ministers of Health of the various provinces under Dominion-wide Federal auspices and through a *lay* public health organization.

In a few of the provinces, radio programs have been inaugurated, in an attempt to educate the public as to the best method of effectively preventing dental decay. These have been more or less successful. In some cases the programs were carried out under the aegis of the Department of Health, which is the ideal way, but in programs where a financial obligation was incurred by the Committee, it has been most difficult for

us to estimate the actual value for money expended. I would suggest that any province or group entering upon a radio broadcasting program give it very thorough consideration and check up on the results obtained by others.

In Ontario, one of the outstanding features of the Provincial Division of Dental Health has been the enlargement of dental treatment in hospitals and provincial welfare institutions. This extension is highly commendable, and the results achieved have been most gratifying. I would recommend this one phase of public dental health to all provinces.

As the Canadian Dental Hygiene Council has had a part in most of the public dental health activities, I am submitting herewith a copy of our Annual Reports of 1935 and 1936, for your files. I would like to suggest also that in any provinces where the Department of Health contemplates carrying dental services to those in need where such services are not available, they communicate either with the chairman of the Public Dental Health Committee of the Canadian Dental Association, or with the Canadian Dental Hygiene Council, for in that way errors and misunderstandings may be avoided. This is one phase of public dental health which requires very close study, in order that we may avoid any semblance of state dentistry or state medicine, and also that we may avoid any confusion between relief services to the indigent and public dental health services to the needy. There is a great distinction.

This report is respectfully submitted.

(Sgd.) HARRY S. THOMSON,  
*Chairman.*

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*"Here I am suffering from rheumatism, arthritis, phlebitis, heart trouble, and old age. Otherwise I am very well."—Sir Abe Bailey.*

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM NOVA SCOTIA:

"What is the best method of treatment to avoid irritation in full upper denture cases where the rugae are abnormally large?"—*J. Stanley Bagnall, Halifax.*

## REPLY FROM QUEBEC:

1. Even uniform seating or bearing of impression on the surface of the mouth to be covered by the denture (compound and plaster technique preferred).

2. Adequate relief of the rugae, by deepening, as well as of the hard, bony raphae. This may easily be done upon the impression.

3. Avoid the obliteration of detail in the impression by using too much separating medium.

4. Secure good occlusion and balanced articulation, to avoid movement of denture upon mucous membrane and also to maintain even bearing.

Irritation of rugae in full upper cases is of very rare occurrence, if the points above are observed.—*I. K. Lowry, Montreal.*

## REPLY FROM ONTARIO:

The question implies that the irritation is purely mechanical and of local origin. If such be the case, the denture should be slightly relieved over this area and the palatal surface should be made smooth. If the irritation comes from the bite's being too heavy on the anterior, the occlusion should be adjusted so that the stress of mastication will be placed upon the posterior teeth. If there is a burning

sensation in this area, the trouble may be caused by pressure on the naso-palatine nerves in the anterior palatine fossa. Relieving stress on this area should solve the difficulty.—*R. D. Thornton, Toronto.*

## REPLY FROM ONTARIO:

The best treatment in any condition of irritation is to find the cause and remove it.

Irritation of the rugae is usually the result of excess pressure in the anterior region of the upper denture. The treatment indicated therefore would be to distribute the load on the posterior teeth.

In order to do this it may be necessary to correct the occlusion and where natural lower anteriors are present it may be necessary to supply a partial lower denture where natural lower posteriors are missing.—*F. A. French, Ottawa.*

## REPLY FROM ALBERTA:

Irritation to the rugae is usually caused by excessive pressure transmitted by the denture base. To correct this, first check up on the occlusion, both centric and eccentric, to make sure that there are no high cusps or inclined planes. Either of these might cause the base to shift slightly during mastication and thus direct undue pressure toward the rugae.

Then relieve denture base over irritated area and the central portion of the vault generally, thereby transferring the weight of the bite to the ridges where it belongs.—*H. A. Gilchrist, Edmonton.*

# The Forum

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## ● FOCAL INFECTION

by DR. W. A. W. WHITELAW, Vancouver, B.C.  
(Excerpts from address given before the Vancouver  
Dental Society).

DENTAL infection is older than the human race, evidences of caries and pyorrhea having been found in the fossilized remains of animals of other eras. The first written notice of oral infection is said to occur in the writing of Hypocrates, the father of medicine. It was not, however, until the beginning of the present century that physicians began to mention dental infection as a direct factor in disease production.

When the trained physician has under consideration any case in which focal infection may be a factor, he has to consider every location within the body from which pathogenic bacteria may reach the circulation and be distributed throughout the organism.

It is to be remembered that the mode of entry of most infection into the body is by the way of the mouth and nose, but it is obvious that dental infection can play only one role and be only one factor where the physician is searching for the active cause of systemic disease.

*Streptococcus viridans* and *streptococcus haemolyticus* are those in which we are mainly concerned since they are the most virile and actively pathogenic.

The more important and common types of diseases and conditions concerning the physician and in which the dentist is called upon to assist in their elimination can be classified under the following headings:

1. Eye conditions
2. Diseases of the nervous system
3. Diseases of the heart

4. Diseases of the gastro-intestinal tract
5. Joint conditions
6. Urinary infections.

It is a sad commentary on our medical knowledge that comparatively little advance has been made in the prevention and cure of arthritis and that all too often the results of treatment are unsatisfactory in spite of everything that may be done to deal with it according to modern methods. We believe today that the answer to the question will be found in a combination of endocrine, biochemical and infective factors. The study of bone metabolism is making rapid strides and lately the subject has been much clarified, particularly from a biochemical standpoint as well as in the manipulation of diets.

In rheumatic conditions, opinions differ very widely as to the type of streptococcus which is the probable cause and as to whether other microbes may not be equally incriminated.

I am a disbeliever in the idea that because a person has rheumatism his teeth should necessarily be removed. I want evidence that the teeth are actually infected and the probable cause before I agree to extraction. There is no simple way of proving that a particular dental or other focus has caused a given systemic disease. Clinical evidence of cure of a particular disease after removal is not sufficient. In formulating an opinion as to what is to be done in a given case where dental infection is a factor, I cannot appeal too strongly for a consultation or a conference between the dentist and the physician. The physician should supply information as to the systemic disease

and the dentist on his part must supply the knowledge relative to the teeth. It is said with regret that there is a lack of proper understanding of dental histology and pathology by the average medical practitioner. It is equally unfortunate that many dentists tend to inadequately examine or fail to x-ray teeth in cases where it is vitally important that everything possible be done to protect the patient's health. Too often x-rays are inadequately or erroneously interpreted. The study of a complete set of radiograms will yield evidences of activity in the bony structure which are not to be found otherwise. It is unnecessary to discuss before this audience the evidence of infection in relation to the teeth particularly in regard to root abscesses, granulomata, periodontitis, pyorrhea or gingivitis. The dentist can be of inestimable help if he is able to report to the physician on the question of bacterial activity. Superficial infection of the gums or the alveolar margins, however, does not drain readily into the general systemic circulation and other means have to be relied upon for diagnosis.

#### ● DENTAL LABORATORY SITUATION IN MICHIGAN

IT IS recognized that the technician is an economic necessity as an adjunct to a busy practice and stands in the same position as a highly trained assistant to the dentist.

For a number of years the larger commercial laboratories have had a national organization with a paid secretary, primarily for mutual education and financial advancement. A little later this organization conceived the idea of gaining legal standing, such legislation being proposed and nearly passing on New York State in 1929.

In Michigan, the State Dental Society appointed a committee to deal with this

situation and in conjunction with a committee of the State Laboratory Association, reached the following agreements:

1. The laboratories agreed not to seek legislation for themselves.

2. To adopt a code of ethics for themselves and a code of inter-relations with the profession.

3. To remove from their places of business all reference to the word "dental", which would come to the notice of the public, thereby ceasing to make the laity laboratory conscious.

4. To refuse to accept work from anyone except a dentist.

5. To aid in the apprehension of laboratories violating the dental law.

On the other hand, the dentists are requested to carry out the following suggestions:—

1. Do not send a patient to a laboratory to have work done, such as repairs of plates, matching shades in ceramic work; in fact, do not send a patient to the laboratory for any purpose.

2. Do not ask a technician to come to your office to give instruction in impression taking. (If the dentist gets stuck he should call in a fellow practitioner for aid.)

3. The dentist should equip himself with knowledge of design and materials so that he can give direction to the technician.

4. The dentist should know the costs of producing a piece of work so that he would not have to ask the laboratory to set a price on it.

5. Every dentist should inform himself as to whether the laboratory which he patronizes is doing work directly for the public and if he finds it is, get evidence and report his findings to his Society or the State Board of Dental Examiners. In either case, hearsay evidence is insufficient.

Some of these requests may seem irksome to the dentists, but as a part of



organized dentistry, they should be willing to comply for the good of the profession. The public is already too familiar with the fact that dentists rely on technicians for mechanical processing of their cases.—*Excerpt from Journal of the Michigan State Dental Society, December, 1936.*

#### ● PUBLIC DENTISTRY AS A CAREER

by GRANTLEY SMITH, L.M.S.S.A., London,  
H.D.D.R.C.S., England, L.D.S.R.C.S., England.

**PUBLIC** dentistry like other branches of the public service is not a highly paid one. It is still in its infancy and is not yet fully established in the public consciousness. Again, it is an expensive service and has, of necessity, to make its position gradually. A definite scale of minimum salaries has been established and steps are being taken to enforce increment for approved service. Superannuation obtains in nearly all dental appointments. While emoluments are not great there is much to be said for regularity of income and hours of work, good holidays, security of one's post and future, work of an interesting nature, an outlook on life that is not confined by the four walls of a private surgery, leisure to cultivate other interests, and a sense of altruism to life generally that is not to be despised.

#### ● DEGRADED ANIMALS

**THE** word "progress" is in such constant use nowadays that it might be well to consider from time to time precisely in what direction this much-boasted advance is taking place. As regards the members of the animal world at least one is forced to admit that we have both exalted and degraded them.

The dog, for example, is wax in the hands of man and has suffered accordingly. On the one hand it has been fashioned into such useful forms as the wolf-hound, sheep dog, etc., and on the other has been twisted and tortured into a series of nightmare deformities. In the bulldog, the pekinese, the King Charles spaniel and the pug, the face has been so shortened that its unhappy owner is a constant prey to catarrhal and nasal disorders. Fashion in the dog world knows neither rhyme nor reason, and once the breeder decides to develop some feature every canon of humanity and common sense goes by the board. The borzoi, for example, intended to hunt by night, has had its nose "improved" until this organ interferes with its range of vision. Canine hair has been exaggerated until such half-blinded atrocities as the Skye terrier have resulted. In the opposite extreme are the hairless dogs of China and Mexico. These are virtually bald from nose to tail apart from a few bristles on the face and between the toes. *In accordance also with a curious corollary which seems to exist between hair and teeth, the dental equipment of these animals has similarly atrophied.* The only useful purpose that these repellent "improvements" serve would appear to lie in the fact that the Chinese hairless dogs are eaten, whilst their Mexican counterparts are trained to lie motionless at the bottom of the bed, there in cold weather to serve as hot water bottles for the comfort of their masters' feet.

With these examples in mind, one is constrained to ask what are the limitations of tortured Nature in the hands of man.—*Excerpt from The New Statesman and Nation, by E. G. Boulenger, June 27, 1936.*

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*It is the law of the Infinite that as you give of your best, the best comes back to you.*  
—William G. Fern.

● **THE ORANGE AND VITAMIN C**

**T**HE orange is full of vitamin C. When we squeeze the orange, we know that we get the juice, and we think that we are getting vitamin C. Not at all, according to A. J. Lorenz, who is the director of nutritional research for the California Fruit Growers' Exchange, and therefore ought to know. Vitamin C resides in that white layer of skin between pulp and rind which we would never think of calling the "albedo", though that happens to be its rightful name. If an orange is merely squeezed, squashed, pressed or triturated, a lot of vitamin C stays right in the albedo where it was born and raised. But if an orange is "reamed" (a process many of us have been through but cannot describe in words) we will get 10 per cent more vitamin C in our orange juice.—*Today* 9/19/36—A.D.A. Press Release Service.

● **RELAXATION**

**T**HE first thing you learn in tennis, swimming, dancing or fencing is to relax certain muscles while you are using others, and to save your energy between the strenuous movements.

If the paramount thing to learn in sports is relaxation, why should it not be in everyone's working life? You are being constantly called on for supreme efforts, and to tackle something which requires all your resources. You must learn, in everyday life, to take the big jumps, then relax, and to master the fine technique of how to conserve some parts of the body while others are being pushed to the limit.

After a few months you will look years younger, have more patience with people, and not feel so worn out at night.—*Leisure*.



By Ed. Reed.

"I think it's lower seven, Doc!"

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PRINCE EDWARD ISLAND



*W. T. Wye, Charlottetown*

*Editor — M. H. GARVIN, Winnipeg*

A S S O C I A T E E D I T O R S

SASKATCHEWAN



*F. C. Harwood, Moose Jaw*

NOVA SCOTIA



*A. W. Faulkner, Halifax*

QUEBEC



*F. W. Saunders, Montreal*

ONTARIO



*T. R. Marshall, Toronto*

ALBERTA



*John Clay, Calgary*

NEW BRUNSWICK



*J. F. Edgcombe, Saint John*

MANITOBA



*J. F. Morrison, Winnipeg*

BRITISH COLUMBIA



*J. S. Bricker, Vancouver*

## The Tribunal of Self-Judgment

The delegates of the Canadian Dental Association, representing all the nine provinces of our Dominion, held a two-day session in Montreal last October, to discuss the problems confronting our profession at the present time. As a result of these deliberations, it was definitely decided that if our National Association and its Journal are to survive, the annual membership dues to this Association should be four dollars and that the delegates should return to their respective provinces and present this claim to their constituencies.

We read that before the Flood, when men began to multiply on the face of the earth, certain problems arose. We are told that there were veritable giants on the earth in those days—mighty men, men of renown, but who neglected the only things that really count in this life. They continued in their indifferent ways until the Flood came and destroyed them all. As far as national affairs of dentistry in Canada are concerned at the present time, we too are face to face with decisions which are momentous. We can con-

tinue in our indifferent ways until the Flood comes and destroys us or at least swamps us in its inexorable clutches, or we can revise our viewpoint, give a new orientation to our daily walk and acquire a vision which stands for the great onward march of our noble profession.

The time has arrived when we must look with keen, critical eyes at the part each one of us has played in the development of national dentistry. "There can be no harsher court than the *tribunal of self-judgment* when it sits in age upon the errors and omissions of the years." When evening is come, we shall gather from the storehouse of the past that which we have garnered through the years, whether it be chaff or wheat. If we are going to be able to say with Browning that the best is yet to be, we must awaken from our present lethargy, in so far as our Dominion-wide viewpoint is concerned.

Manitoba has already voted to raise the dues to the C.D.A. in this province to four dollars as soon as the other provinces will agree to do the same. There may be a province or two in which any increase in dues, at the present time, is not possible on account of unusual economic conditions and, of course, there is no thought upon the part of any of us to exert any undue pressure upon those less fortunate than ourselves. On the other hand, the large majority of our provinces are not only well able to raise the dues to this suggested amount but much higher if such were necessary. In speaking to a dental officer in one of our great provinces just a few months ago, upon this subject, my suggestion as to fee raising was met with the words that his Board could not consider raising the fees to four dollars at the present time. My reply was that if the average man in his province really knew all the facts, the Board, of which he was a member, would be unable to do anything else than raise the annual dues. When public opinion is aroused, politicians have to step sharply. Statesmen do not wait to be so forced but take a firm hand in creating public opinion. This article is written for you, a member of the C.D.A. whether you be a statesman, a politician or just a plain, ordinary dentist practising in some isolated hamlet or in a great metropolis of this vast country of ours.

I quite appreciate the magnificent work being done throughout Canada by the Canadian Dental Hygiene Council under the very able leadership of Dr. Harry S. Thomson. A report of the activities of this council appears in this issue of the Journal. I give all honour to the splendid men in every province who have worked hard and are working hard to advance the profession of dentistry, in every way possible, within their provincial borders and particularly to those men in every province, who, with a broad vision and a great love for dentistry and their fellow practitioners, are exerting every effort to advance national dentistry. It is the thought of helping these latter men in their great task that inspires this article.

What are we doing as a national body to encourage the right type of young man to enter the portals of the noble profession of dentistry? How many good truck-drivers are we spoiling by allowing them to study dentistry?



A lady who had just come from visiting her dentist told the writer the other day, "He is a very nice fellow but simply a ruffian as a dentist."

When our capable men do graduate, what are we doing to assist them in building up a lucrative practice? On this continent, twenty millions of people go to the movies every day. More than a billion dollars are spent annually for cosmetics. Twenty-five million motor cars are being driven along our highways and yet we are told that the people cannot afford dental service. When will something be done, in a national way, to make our people mouth conscious from a health standpoint and willing to place health ahead of the non-essentials of life? We have a wonderful story to tell and we should be telling it from the housetops, from the printed page, over the radio, and by word of mouth to clubs and organizations of every description. If it is essential for the young man in the home to have a wonderful wardrobe, a sports car and money enough to wreck the average youth even though his mouth is neglected, we, as a profession, are not entirely free from blame.

Our Association should be giving extensive thought to the matter of adequate dental service for the lower income groups of every community, administered by full-time officers, not merely by voluntary workers.

Sir Kingsley Wood, Minister of Health in Great Britain, said at the Empire Meeting, "Dentistry is a closed, protected profession in order to protect the public and particularly the poorer classes from the dangers of unskilled treatment. But since the poorer classes will be so deprived and may not be able to pay for the services of a skilled dentist, it is necessary to make organized arrangements for providing them with the skilled treatment they require." In this regard we have done very little indeed and my fear is that the government may step in, with the result that political henchmen will tell us what to do and who is going to do it. As Mr. Coburn so ably points out in our November Journal, there is every reason to expect that the next few years will see an invasion of the political rights of the dental profession, and that whether it will be economically sound from the viewpoint of the practitioner will depend on the strength of our National Association—a strength measured not only in terms of funds and membership but in terms of enthusiasm and personal support.

Our Association should be doing more in watching adverse legislation and in having removed objectionable features which exist in present legislation as to duties, taxes, etc.

The work of our standing committees should be well known to each member of our profession and with the impetus that full-time officers could give to these committees, a great deal more could be accomplished than is being accomplished at the present time.

A much appreciated letter from Dr. Oxner of Halifax arrived yesterday, in which he states that the C.D.A. is not exerting the influence on Canadian dentistry which it should, and that it will not do so until we can meet annually in convention and arrange for an attractive program—a suggestion in which I heartily concur.

To accomplish all this and very much more, we pay an annual fee of fifty cents, half of which is allotted to the Journal committee. The British Dental Association has ten full-time officers and one part-time officer, and the annual membership fee is \$15.00. This is in addition to the legal fee for all practitioners of \$20.00. In New South Wales (Australia) there are five full-time dental officers and one part-time officer, and the annual fee is \$15.00. In New Zealand the annual fee to the National Association is \$12.00 which includes liability insurance. In the United States the fee is \$4.00 of which \$1.25 is allocated to the Journal.

Something must be done for our Association if it is going to continue to exist. One full-time secretary, stenographer, office rent, office upkeep, stationery and postage, travelling expenses, editors and business manager for the Journal, expenses of standing committees, cost of delegates meeting, etc., involve a budget of well over \$15,000.00 a year which is the minimum upon which the Canadian Dental Association can function. This means \$4.00 a year for each dentist in our Association.

I am convinced that a well-organized, efficiently-managed national organization is essential to our development as a profession in Canada. If we fail in this undertaking, dentistry in Canada will be set back twenty-five years, and no province will escape the demoralizing effects.

I am further convinced that, even in the matter of dollars and cents, each individual dentist will benefit to an amount many times \$4.00 by making this *investment* in our National Association.

We are at the end of the road as far as blundering along is concerned. The "Tribunal of Self-Judgment" is about to go into session. A dental profession militant, alert, efficient may survive, but not a dental profession which is living in the lotus land of indifference. The time has come to "Stop, Look and Listen". Will you do your part in lining up your province solidly behind this forward step in dentistry, or do we continue to eat, drink and be merry until the Flood comes and destroys us?

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## BOOK REVIEWS

**Materia Medica for Dentists**—by Frank Coleman, M.C., L.R.C.P., M.R.C.S., L.D.S., Senior Dental Surgeon, St. Bartholomew's Hospital. Late Member of the Board of Examiners in Dental Surgery, Royal College of Surgeons of England. Examiner in Pharmacology for the B.D.S. Examination, University of London. Published by the Oxford University Press—1936. Canadian agents, McAlinsh & Co. Limited, Toronto. Cloth—Price \$3.25.

The first edition of "Materia Medica for Dentists" was published in 1902. As evidence, not only that the work has been popular, but also that it has been kept up to date, it has now reached its seventh edition. The publication of the 1932 edition of the British Pharmacopoeia brought some changes in the names and dosages of several drugs. This has required a revision of "Materia Medica for Dentists" to be in agreement.

Important additions in this edition include

short accounts of bismuth, ethylene, the barbiturates, carbon dioxide and fuller information on vitamins. A few drugs and preparations which have been discarded from the last British Pharmacopoeia have been omitted.

Chapters deal with definitions, pharmacy, methods of administration of drugs, dosage and action of drugs. Then follows the pharmacological classification of drugs as alteratives,

anaesthetics, antiseptics, narcotics, stimulants, etc. Further chapters deal with drugs for miscellaneous purposes, and the treatment of cases of poisoning.

As a reference work for Canadian dentists it is especially suited as the "Drugs and preparations mentioned in the text are contained in the British Pharmacopoeia (B.P.) unless otherwise stated."—*Kenneth M. Johnson.*

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**Operative Dentistry**, revision of G. V.

Black's work, with which his Special Dental Pathology is combined—by Arthur D. Black, A.M., M.D., D.D.S., Sc.D., Dean and Professor of Operative Dentistry and Oral Pathology, Northwestern University Dental School; four volumes: Volume I, Pathology of the Hard Tissues of the Teeth, Oral Diagnosis, 422 pages, 280 illustrations; Volume II, Technical Procedures in Making Restorations in the Teeth, 313 pages, 350 illustrations; Volume III, The Treatment of Dental Caries, 305 pages, 492 illustrations; Volume IV, Pathology and Treatment of the Diseases of the Investing Tissues of the Teeth, the Dental Pulp and the Periapical Tissues, 472 pages, 523 illustrations. Price, \$4.50 per volume; \$16.00 for the set. Seventh Edition. Medico-Dental Publishing Company, Chicago.

This classic in the field of operative dentistry has been published on the one hundredth anniversary of the birth of that famous scientist Greene Vardiman Black.

In preparing these volumes, a successful effort has been made to harmonize the teaching with the report of the Curriculum Survey Committee of the American Association of Dental Schools.

Operative dentistry in the author's conception, consists of all procedures, including preventive measures, by which the teeth may be conserved, and this view has been kept constantly in mind in producing this masterpiece.

Volume one is devoted primarily to the pathology of dental caries and other diseases of

the hard tissues of the teeth, including chapters on Oral Diagnosis, Health Nutrition and Hygiene, Development of the Teeth, Occlusion, etc., Saliva, Dystrophies, Mottled Enamel, Hypoplasia, Erosion, Abrasion and Dental Caries.

Volume two is devoted to the materials and appliances used in operative dentistry, the nomenclature of cavities and instruments and the technical procedures in making restorations on the teeth.

Volume three presents the clinical treatment of dental caries and is designed as a clinical guide both in teaching and in practice. The care of the temporary teeth has been given a prominent place. A program of treatment is outlined which includes the education of patients and laymen generally in problems of dental health, the use of preventive measures by the dentist and the reduction of pain in cavity preparation. Clinical practice is divided into three periods—that of the temporary teeth, the permanent teeth during childhood, and adult life.

Volume four is devoted to the diseases of the gingivae, periodontal tissues, dental pulp and periapical tissues. The technique of all procedures in pulp treatment, including measures for the best asepsis, are given in great detail. There is also a special chapter on mouth infection in relation to systemic disease.

This monumental work on operative dentistry is published on good paper and in a most convenient format. Undoubtedly it is a work which should be found on the shelves of every progressive dentist.

M. H. G.

**Full and Partial Denture Prosthesis—**

by Lee Walter Doxtater, D.D.S., New York City, formerly Professor of Crown and Bridge Prosthesis, Dental School of New York University—261 pages, 251 illustrations. Published by Dental Items of Interest Publishing Company Inc. Price \$6.00.

The material for this book was prepared by Dr. Doxtater shortly before his death and the same splendid biological approach to the subject of restorations is found in this volume as in his previous work entitled "Procedures in Modern Crown and Bridge Work."

Chapters are devoted to mouth examination, impressions, preparation of casts and base plates, bite rims, face-bow registration, selection of teeth, aesthetics, occlusion, rebasing,

immediate denture insertion, phenol-formaldehyde resin dentures, the roofless denture, unilateral restorations, etc.

Consideration is also given to the unusual problems confronting the prosthetist including advice to the patients; in fact, this work is a most excellent textbook not only for the student but for the general practitioner as well.

The profuse use of beautiful illustrations makes it almost possible to follow the technique without the text, a method which will appeal greatly to the busy practitioner.

As the construction of full and partial dentures still constitutes one of the major and most intricate problems of dental practice, this addition to the literature on the subject should prove most helpful.

M. H. G.

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## NEWS FROM THE PROVINCES

### **NEW BRUNSWICK:**

#### **Dental Convention**

The Forty-Second Annual Convention of the New Brunswick Dental Society will be held in Saint John, July 5-6. The following officers are in charge:—General Chairman, Dr. W. C. Carruthers; Publicity-Registration, Dr. H. H. Peters; Exhibits-Program, Dr. Frank Boyaner; Clinics, Dr. J. F. Edgecombe; Entertainment-Reception, Dr. R. S. Langstroth.

The dentists of Canada who may find it possible to holiday in the Maritimes this summer will be most heartily welcome at this convention.

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#### **Supreme Court Case**

Judgment in the case of Douglas Dower, charged with practising dentistry for hire, not being then registered under the provisions of the New Brunswick Dental Act, 1929, was given in the Supreme Court Chambers December 17, by Mr. Justice A. T. Le Blanc who found neither the information nor the conviction stated what particular act the accused had committed constituting an offense of practising dentistry.

He set aside the conviction with costs to be paid forthwith after taxation.

### **NOVA SCOTIA:**

#### **Dental Convention**

The members of the Nova Scotia Dental Association will assemble in Halifax in the Autumn of 1937. The chief feature of the meeting this year is to be a refresher course under the auspices of the Dental Department of Dalhousie University. A Committee consisting of representatives of the Association and School, with Dr. S. G. Ritchie as Chairman, has already held three meetings, and a tentative program has been arranged. It is the intention of the Committee to leave no stone unturned in their efforts to make the course one of practical benefit to all who attend.

Dr. G. V. Turnbull, of Digby, and Dr. V. C. Calkin, of New Glasgow, were recently in Halifax for the purpose of outlining to the refresher course Committee their views with regard to what phases of dentistry would prove most acceptable to the average general practitioner.

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#### **Oral Hygiene**

The Oral Hygiene Education Committee has been actively functioning under Dr. G. R. Hennigar's chairmanship, and has lately been



concentrating on a campaign of lay education to begin in the fall under the advisement of Dr. Harry S. Thomson. Dr. Thomson recently paid a fugacious visit to Halifax in this connection.

#### **The Passing of Dr. Stevens**

In the recent death of Dr. F. W. Stevens, of Dartmouth, N.S., another link with the past has been severed. All who were privileged to know him will feel a personal loss in his demise. Friendly by nature he irradiated good-humour on all occasions, imparting to those who came in contact with him a cheerfulness that reflected the sunshine of his mind.

#### **Journal of Dental Education**

An interesting and informative little publication has lately come to my desk. It is known as The Journal of Dental Education and is published by the American Association of Dental Schools. To quote from the December issue it "was established as a medium for the publication of articles and information on dental education and related fields. It is to provide opportunity for expression on the part of dental teachers and others interested in dental education. It will not be sound unless reasonably free expression of opinion is allowed in the pages of the Journal." In my own humble opinion there is a distinct field for such a magazine and we look to see it grow in value as the days go by. We tender it our best wishes for a long and useful career.

A. W. F.

#### **My Reason to Get Rid of Them**

If I open my mouth

They hurt me

If I patt them with my tongue

They hurt me

I eat cold they hurt

I eat hot they hurt

In the flesh over the sick toot or teets, there is "pain" growing and going up toward the left eye

They must be both sick. What the use to keep them.

Life is very interesting for me, Doctor, without tootache

"If it is tootache I got."

*(Note written by deaf and dumb man at Health Clinic, Dental, Halifax.)*

### **BRITISH COLUMBIA:**

#### **Automobile Show**

An automobile show was staged at Chilliwack in December, the proceeds from which, amounting to \$500.00, went towards the work of the valley-wide dental clinic sponsored by the Rotary Club.

#### **Vancouver Dental Society**

The Vancouver Dental Society was honoured by the presence of several medical practitioners at its monthly meeting, to hear Dr. W. A. Whitelaw, one of British Columbia's prominent diagnosticians and radiologists, present a paper on "Focal Infection," in which he showed the relationship between the more common diseases and focal infection generally.

After the discussion, which was opened by Dr. E. C. Jones, Dr. J. A. Smith, M.D., presented a series of coloured films of New York City, the "Queen Mary," France, England and Scotland. Pictures were also shown which were taken at night and which were very interesting.

A condensed review of Dr. Whitelaw's paper appears in another section of this issue of the Journal.

#### **Amendments To The Dentistry Act**

In November, 1936, the "Dentistry Act" of British Columbia was amended in a very satisfactory way to the dental profession of the province.

The amendment provides for the registration of a restricted number of holders of Dominion Dental Council certificates for a registration fee of five hundred dollars, pursuant to the amended provisions of the Act.

Provision is made which makes it unlawful for any dentist to recover payment for services rendered unless, at the time such services were rendered, he was the holder of an unexpired annual certificate.

The whole question of advertising will now come under the provisions of the Act which gives the Council the power to hold an inquiry into the conduct of anyone who is adjudged to have been guilty of unprofessional conduct in any respect, the penalty for which is suspension from practice, suspension of registration or erasure from the register. It also removes the responsibility for determining

the propriety of advertising from the Legislature to that of the Council and the Courts where it rightfully belongs.

The minimum fine for an offence against the Act is now fixed at \$50.00 and provision has been made for second and subsequent offences.

#### **Surrey Dental Clinic**

A report of the Surrey Dental Clinic for the past year shows that 1,516 pupils of some 20 schools were attended to, the number of treatments totalling 12,338. Rent of a Cloverdale office and services of three dentists cost \$4,530. The government gave a grant of \$2,650 and \$1,861 was collected in Surrey.

#### **ALBERTA:**

##### **Edmonton Dental Society**

The following was the program of the December meeting of the Edmonton Dental Society:

1. Dr. A. M. Revell:  
The Alberta Dental Health Council—  
Its Aims and Method of Operation.
2. Dr. R. L. Scharff:  
Pedodontia and some Experiences as a  
Clinician for the Alberta Dental  
Health Council.

##### **Calgary Dental Society**

The Calgary Dental Society met at the Renfrew Club at 6.15, Monday, December 14. Dr. P. G. Atkinson gave a practical and interesting paper on "Aesthetics in Dentistry," paying particular attention to ceramics, on which subject he speaks with authority.

A new feature in the Calgary Dental Society meetings, which has been introduced by the executive, is proving of real value and interest. At each meeting three members come prepared to give a short review of three of the current dental journals. This addition to the program can be highly recommended to other societies.

Dr. A. M. Palmer has recently moved his office to 1009 Southam Building, Calgary.

#### **SASKATCHEWAN:**

##### **Educational Films**

Two educational films "Care of the Teeth" and "How Teeth Grow" have been purchased by the Regina Dental Society and will be shown in the city schools.

##### **Moose Jaw Dental Society**

The Moose Jaw Dental Society held its monthly meeting in the Grant Hall Hotel on January 12, with the President, Dr. W. J. McCauley, in the chair. Dr. Harold Johnston gave some practical, helpful hints gleaned from the dental literature. Dr. McDougall gave a paper and a practical clinic on the use and application of the rubber dam. He reported that the West Coast dentists are very much interested in the malleted gold foil filling.

#### **MANITOBA:**

##### **Board of Directors**

The annual election of three members to the Board of Directors of the Dental Association of the Province of Manitoba resulted in the re-election by acclamation of Dr. J. F. Morrison and Dr. E. L. White, of Winnipeg, and Dr. C. L. Strachan, of Virden. The 1937 Board of Directors includes Dr. A. E. Proctor and Dr. C. D. McLeod, of Winnipeg, and Dr. N. S. Bailey, of Portage la Prairie, who was elected President of the Board at the regular January meeting of the Directors. The other officers are Vice-President, Dr. A. E. Proctor; Registrar-Secretary, Dr. J. F. Morrison; Treasurer, Dr. E. L. White.

##### **Winnipeg Dental Society**

The January meeting of the Winnipeg Dental Society which was attended by the usual number of members—about 40—and usually the same individuals, was another very successful meeting when measured from the standpoint of information, inspiration, and sociability. The program included—questions and answers—about oral surgery, dental jurisprudence, operative dentistry, and what the Canadian Dental Association can do for the dental profession in Canada. The latter sub-

ject was handled by Dr. M. H. Garvin, delegate to the C.D.A. from Manitoba and editor of the Journal of the Canadian Dental Association. Dr. Garvin stressed the value and necessity of proper and adequate organization and said that the only thing that kept the Canadian Dental Association from such organization is the lack of adequate financial support by the profession in Canada. He said that \$4.00 per year from every dentist in Canada would pay a full time secretary for the Association, without whose services we can never begin to approach the standing and effectiveness of an organization such as the Canadian Medical Association. Just give a few minutes' thought to what organization does for any political party. It does just as much for the medical profession and it could accomplish as much for dentistry. Several years ago the Dental Association of the Province of Manitoba passed a unanimous resolution in favour of paying \$4.00 per member annually to the funds of the Canadian Dental Association, payment being conditional upon the other provinces doing likewise. The resolution was passed after a convincing address by Dr. Garvin upon the value to each individual dentist of a properly organized Dental Association.—*J. F. Morrison.*

## **ONTARIO:**

### **Hamilton Dental Society Honours Dean Mason**

One hundred members and guests attended the regular December meeting of the Hamilton Dental Society. The occasion was unique in that the society presented its first Honorary Life Membership and Dean Mason of the University of Toronto was the esteemed recipient. It was presented by Past President, Dr. W. G. Foster, who in an address of eulogy and affection enumerated events of a career which had endeared Dr. Mason to a host of friends.

Dr. Claude Nelson, of St. Catharines, was tendered the congratulations of the members by President Dr. S. Coons, on his election to the Board of the R.C.D.S.

The speaker of the evening was Dr. R. W. Bunting, Professor of Oral Pathology in the Dental School of the University of Michigan. He was presented by Dr. J. N. Stewart. His subject was "What is Known About the Cause

and Control of Caries in the Teeth." Some outstanding statements in his address were:

"Cleansing of the teeth is necessary and does limit the extent of caries but does not prevent its occurrence."

"Adequate diet containing calcium, phosphorus and vitamin D are necessary in childhood for the building of good bone and teeth."

"Teeth of good structure and good individual resistance are highly desirable and may limit the rate and extent of caries but do not determine the onset."

"There is a factor more potent, which irrespective of cleanliness, hardness or softness of the teeth, initiates the caries process."

"The incidence of caries is dependent on the presence of lacto bacillus acidophilus."

"The correlation of these organisms and caries may be demonstrated in 90 per cent of cases."

"Prevalence of lacto bacillus acidophilus in the mouth is directly influenced by the amount of sugar ingested."

"Ninety per cent of people willing to submit to a low sugar diet—no sugar on table, no sugar on cereals, no sugar in beverages, no highly sweetened foods and no candy or similar confections—can of themselves control occurrence of dental caries."

Following Dr. Bunting's paper, considerable commendatory discussion arose indicating the interest with which the paper was received.

### **Value of Dental Service**

A committee of dentists from the Board of the Royal College of Dental Surgeons, the Ontario Dental Association and the Toronto Academy have been commissioned to make a study of the public attitude towards the value of dental service. It is thought that dentistry, as a health service, occupies a much more important place in the maintenance of good health than most people realize. With this thought in mind, the question arises, "How shall we as a profession meet this problem?" This committee is authorized to gather facts by making a survey of opinion from people in all vocations. Then, with facts as a basis, suitable educational material can be prepared to meet the need. That is to say, a campaign of dental education for both dentist and public that will raise the standard of appreciation for dentistry in a program of keeping fit.

### Hours Shortened at R.C.D.S.

A revision of the time-table in the Faculty of Dentistry, University of Toronto, provides for shorter hours of study in some of the years, in order to bring the dental faculty into line with the rest of the University. The new arrangement is expected to give dental students more time to participate in the extra-mural activities of the University.

### Kent County Dental Association

A meeting of this Association was held November 16th in Chatham, presided over by the President, Dr. R. C. McCutcheon, of Highgate. Clinics were given by Doctors D. J. Ferguson, of Detroit, W. Y. Hayden, Harold Windrim and Frank Giffin, all of London, and J. G. White, of Bothwell.

### Hamilton Dental Assistants

Dr. O. S. Clappison, of Toronto, was the guest speaker at a dinner tendered the dental assistants by the Hamilton Dental Association, on December 15th. He spoke on the subject "Checking Up on Ourselves". The president, Miss Iverna Rae, presented Dr. Clappison with a cane, suitably engraved, as a token of appreciation.

### Nurses' Alumnae Association

The Toronto Dental Nurses' Alumnae Association held its annual dinner at the Canadian Business and Professional Women's Club, 67 Yonge St., Toronto, on January 12th. About 60 were present. Dr. Marion Hilliard, guest speaker, gave a very informative and instructive address.

### Ship's Surgeon

Dr. Lewis H. Smith has been appointed ship's dental surgeon on the Empress of Britain.

### Observation

A Toronto dentist made this observation to an associate the other day, "Have you noticed that the men in the profession who are going places are always members of our dental societies?"

Query—Is it not the truth?

### If I Had a Boy

If I had a boy, I would say to him, "Son,  
Be fair and be square in the race you must  
run,

Be brave if you lose and be meek if you win,  
Be better and nobler than I've ever been,  
Be honest and fearless in all that you do,  
And honour the name I have given to you."

If I had a boy, I would want him to know  
We reap in this life just about what we sow,  
And we get what we earn, be it little or great,  
Regardless of luck, and regardless of fate.

I would teach him and show him the best that  
I could,  
That it pays to be honest and upright and  
good.

I would make him a pal and a partner of mine,  
And show him the things in this world that  
are fine.

I would show him the things that are wicked  
and bad,

For I figure this knowledge should come from  
his Dad.

I would walk with him, talk with him, play  
with him, too,

And to all of my promises strive to be true.

We would grow up together and I'd be a boy  
And share in his trouble, and share in his joy.  
We would work out our problems together  
and then

We would lay out our plans when we both  
would be men.

And Oh, what a wonderful joy it would be,  
No pleasure in life could be greater to me.

—Frank Carleton Nelson.

### QUEBEC:

#### City Alderman

Dr. A. L'Archeveque has been elected  
alderman in the city of Montreal.

#### Radio Speaker

Dr. Joseph Nolin, vice-dean of the School of Dentistry of the University of Montreal, was the guest speaker on the weekly broadcast given under the auspices of the University, December 12, over station CKAC. Dr. Nolin's subject was "Dental Surgery."



## EMPIRE NEWS

### GREAT BRITAIN:

#### Expenditures of B.D.A.

Subject to the approval of the General Medical Council, the following amounts have been allocated for expenditure in the year 1937:

|                                 |            |
|---------------------------------|------------|
| Educational Grants .....        | \$ 105,000 |
| Dental Health Education .....   | 25,000     |
| Grants for Research .....       | 15,000     |
| Post-Graduate Instruction ..... | 1,000      |
|                                 | <hr/>      |
|                                 | \$ 146,000 |

### AUSTRALIA:

#### Ninth Australian Dental Congress Sydney, Australia

The Ninth Australian Dental Congress, organized by the Australian Dental Association, is to be held in Sydney from August 16 to 20, 1937.

A comprehensive program is being prepared, including all the leading branches of dentistry. The papers and clinics presented will be of the highest possible standard, and the most able speakers and clinicians will be selected.

Great attention is to be paid to the social entertainment of visitors. Members of the profession who have never visited Australia should take this splendid opportunity of doing so and of obtaining some idea of the conditions of life in these southern climes.

Australia is a country of long distances and offers untold attractions to the traveller. Its two main cities, Sydney and Melbourne, are amongst the largest in the British Empire, and will compare most favourably with any of the chief capitals of Europe and elsewhere.

Sydney, with its wonderful harbour, beautiful beaches, busy thoroughfares, excellent facilities and alluring gaieties, affords every opportunity for spending a perfect holiday. The University of Sydney, where the Congress is to be held, is one of the finest in the southern hemisphere.

Combine profit with pleasure! Come to Australia for the great event and see for yourselves the high standard which dentistry has attained and, at the same time, learn something definite of a continent which, perhaps up to the present, has been little more than a name to many. You will be made most welcome.

PERCY A. ASH,  
*Secretary-General.*

### NEW ZEALAND:

Since 1922 the New Zealand Dental Association has had a Dental Indemnity Society which undertakes to ensure the members against accident, sickness, fire, earthquake and burglary. The financial benefits offered are much more attractive than can be obtained elsewhere.

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## GENERAL NEWS

### Post-Graduate Course University of Toronto

ORTHODONTIA FOR THE GENERAL  
PRACTITIONER, MARCH 1 to 13, 1937

A Post-Graduate Course in Orthodontia for the General Practitioner will be held by the Faculty of Dentistry, University of Toronto, for two weeks, from March 1 to March 13, 1937.

The course will include the study of occlusion, the aetiology and classification of mal-occlusion, the diagnosis of early irregu-

larities, correction of habits, and treatment of simple cases. Instruction will be given in the construction of appliances both from the standpoint of treatment and retention, and members of the class will make the appliances under the direction of the teachers. Clinics will be given on cases being treated in the Infirmary. Time will also be devoted to diet, bone formation, radiographic diagnosis and the problem of impacted teeth.

The teachers in this course will be Charles A. Corrigan, D.D.S., C. Angus Kennedy,

D.D.S., S. Stuart Crouch, D.D.S. Lectures will also be given by other Faculty members on correlated subjects.

The class will be limited to ten practitioners, and the fee will be \$50.00 for each registrant.

Application for registration or further information should be addressed to: The Dean, Faculty of Dentistry, University of Toronto, 230 College Street, Toronto.

#### **Orthodontia Western Reserve University, Cleveland**

The Eastern Association of Angle Graduates will hold their next meeting March 15 and 16, 1937, in the Anatomical Laboratory of Western Reserve University, Cleveland, Ohio. Arrangements for programs are in the hands of Dr. T. Wingate Todd and the staff of the Brush, Bolton and Associated Foundations.

Secretary, E. Santley Butler,  
550 Locust Ave.,  
New Rochelle, N.Y.

#### **German Memorial Honours X-ray Men**

In Hamburg, Germany, recently, was unveiled the first monument in honour of the x-ray men in every part of the world, who gave up their lives for the advancement of the science of radiology.

This memorial, a four-sided shaft of stone, has been placed before the Roentgen Institute of St. George's Hospital in the German city. On one side of the shaft, the following epitaph has been inscribed:

"To the roentgenologists and radiologists of all nations—doctors, physicists, chemists, technicians, laboratorians and nurses—who sacrificed their lives in the struggle against the diseases of mankind. They were heroic pioneers who made possible the successful and safe use of roentgen and radium rays in medicine. Immortal is the glory of the work of these dead."

Of the 160 names carved on the remaining three sides of the monument, 38 men and one woman worked with the rays and became martyrs to the cause in America.—*Toronto Daily Star*, December 4, 1936.

#### **Post-Graduate Courses**

The Faculty of the School of Dentistry, University of Michigan, at Ann Arbor, announces the appointment of four Michigan dentists as lecturers in post-graduate education and these men are now on duty one day each week.

One and two-day-a-week programs as well as one and two-week post-graduate courses are being offered. During the past year, fifty-eight dentists have been enrolled as regular students in these courses.

The experiment was made of bringing in practitioners from outside the school to assist in this post-graduate work and take an active part in the development of post-graduate teaching under the direction of the heads of departments.

#### **The Life Extension Institute Changes Its Methods**

According to the terms of an agreement reached by the State Department of Education, the Attorney-General's office, a Court referee, and the Life Extension Institute, the last-named organization will henceforth desist from making any physical examinations. It will do laboratory work for physicians and carry on educational activities having to do with life extension. It must not practice medicine.

This manner of ending an old controversy meets with our approval. The avoidance of litigation is creditable to all the parties involved in the agreement. It is a pity that this happy solution could not have been reached long ago. Civilization must be advancing.—*Medical Times*, December, 1936.

#### **The Study of Consumer Purchases**

A new study of consumer purchases now in progress is planned to provide facts concerning medical costs free from propaganda. It is the most comprehensive survey ever made of American family expenditures. It is to include 52,000 families at all income levels and in all occupations.

The actual fact gathering has been divided between two federal government organizations. The U.S. Bureau of Labour Statistics is conducting the survey in urban centres and the U.S. Bureau of Home Economics is surveying

agricultural areas. Plans for the study were formulated by a committee of representative economists in co-operation with the National Resources Committee. They follow the lines proposed by the Social Science Research Council in 1929 and suggestions made by the Chamber of Commerce of the United States in 1932.

As a result of this study, it is said, the medical profession will be able to learn the relation of family expenditures for medical care to expenditures for other specific goods and services; how this relationship varies with annual incomes ranging from \$250 to \$10,000 a year and over; how the occupation of the principal wage earner, the size of the family and the amount of the income influence the family's selection among the various types of medical care; how expenditures differ among rural and urban families; whether an urban family with a rural background is more likely to turn to specialists than a city bred family, or whether the number of members in the family and the amount of income play a more important part in the selection of medical services.

The detailed information which the 52,000 families are giving will not be lumped together in a mythical "average." The data are being analyzed by geographic areas for thirteen income groups, eleven types of family composition and seven occupational classifications (such as wage earners, salaried and independent businesses and professions, and retired persons).

This should make it possible to learn who calls on the services of physicians, dentists, ophthalmologists and other specialists; who visits clinics; how much money families in each of these classifications are spending for hospitalization, private nurses and visiting nurses, and what their expenditures are for medicines and drugs, medical appliances and supplies, eye glasses, and health and accident insurance.

These facts will be presented in relation to other family expenditures for food, clothing, shelter, household furnishings and equipment, education, recreation, travel, tobacco, reading, gifts, automobiles and personal care. In addition, changes in family assets and liabilities during the year will be analyzed, so it will be possible to learn the relation between expendi-

tures for medical care and family savings or debts.

Organizations of manufacturers, retailers, advertising agencies and newspapers have shown great interest in the study because of its significance as a comprehensive market research survey. Obviously it will be equally significant for the medical profession in attacking the problems of medical economics and planning for the education of specialists and the location of hospitals. It provides the kind of accurate and objective data needed as the basis for future professional policies.

Such a study as this cannot be truly representative or of maximum usefulness to all groups unless individuals in all groups co-operate. This fact has been recognized by all who have understood the purposes of the study. The economists who planned the study estimated that about 15 per cent of the persons concerned would be unable or unwilling to participate in completion of the short interviews. Instead, the percentage of "refusals" has averaged 2.9 per cent. For the longer interview the "refusals" have averaged 11.5 per cent instead of the 25 per cent estimated.

The selected families of wage earners, retired persons, salaried and independent business men and members of various professions are giving information that will be of great value to the medical profession. The departments involved request the medical profession for similar co-operation. The ultimate usefulness of the study depends of course on the co-operation of the families in each business and professional group and on that of the medical profession.—*A.M.A. Journal*, October 3, 1936. (*A.D.A. Press Release Service*).

### Licensing of Specialists in Dentistry

The Department of Registration and Education of the State of Illinois has been legally authorized by the Dental Practice Act of 1935 to issue certificates empowering the holder thereof to limit his or her practice to a single department of dentistry.

At present the Department recognizes five specialties in dentistry, as follows: Exodontia, Orthodontia, Periodontia, Prosthodontia and Periodontia. Only one specialist licence may be held by a dentist at any one time.

## IN MEMORIAM

**John E. Wilkinson**—of Edmonton, Alberta, died suddenly Wednesday, December 30, after a brief illness. Born in Brampton, Ont., Dr. Wilkinson graduated in dentistry at the University of Toronto in 1892. After a few years of practice at Parsboro, Nova Scotia, he moved to Toronto where he practised until 1913. During that time Dr. Wilkinson was active in the Sherbourne Methodist Church, leading a large class of young men for a number of years.

On going to Edmonton he carried on his practice, with the exception of a short interval, until the time of his death. During this time he took an active interest in community affairs and was outstanding in the province in the breeding and raising of poultry. He was successful in winning many prizes locally, at the Royal Winter Fair in Toronto and at the World's Poultry Congress in London. A new breed of chicken called "Chanticleer Albertan," which is particularly suitable to Alberta conditions, was developed by him.

Surviving him are his widow; two sons, Dr. John Wilkinson, a dentist in Toronto, and W. C. Wilkinson, in Jacksonville, Fla.; and one daughter, Miss Charlotte Wilkinson, Toronto.

As one of the members of his class in Sherbourne Methodist church and a student in his office, I should like to pay tribute to his influence for good on many of those with whom he came in contact.—*John W. Clay.*

**Isaac Luke Nichols**—of Chatham, Ontario, aged 84, died at his home on January 9. Up to the time he retired from active service one year ago, he was the oldest practising dentist in Ontario.

In his earlier life he was keenly interested in sports, maintained an enviable reputation as a cricketer and spent many hours in hunting and fishing. At one time he owned some of the best bird dogs in the country.

Surviving are his widow and one daughter.

**Fred E. Burden**—of Moncton, N.B., died suddenly at his home from a heart attack on January 4. He was a gold medallist at the University of Maryland, from which he graduated in 1909 and was widely known throughout the Maritime provinces. He practised in Moncton since 1910 and the many friends he made in all walks of life will regret his sudden passing.

Dr. Burden was a keen supporter of amateur sports and was past-president of the Moncton Olympic Club. He was also an accomplished musician and a member of various local orchestras. Surviving are his mother, his wife, two daughters, two sons and a brother.

**John Alexander Bothwell**—of Stratford, Ontario, aged 71, died December 30. Dr. Bothwell had retired from active practice but was prominent as a church worker and in the horticultural society. He was also a former member of the board of education and a former president of the Stratford branch of the Red Cross.

**W. A. Sudworth**—of Ingersoll, Ontario, aged 81, died January 11. He practiced dentistry in Ingersoll for fifty-five years. For twenty years he was a member of the Board of Education, twice being chairman. For sixty-four years he was a member of the King Street Methodist Church, now Trinity United, and was a steward and trustee there. Surviving are his widow and two daughters.

**Douglas Van Allen**—of Sturgeon Falls, Ontario, aged 36, died on December 14, after a short illness. He is survived by his wife and two sons.



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## EDITORIAL

### *La Raison d'être des Sociétés Dentaires*

L'IDEE n'est pas neuve; elle manifeste l'éclosion d'un sentiment bien humain: le groupement pour la force. De tout temps, l'homme a senti en lui le désir de fréquenter son voisin pour satisfaire son besoin de vie sociale. Comme l'âme humaine ne se renouvelle guère au contact des siècles, cette manifestation de sa sociabilité qui, aux âges primitifs, se réalisait en union pour la protection mutuelle contre l'ennemi commun, s'est transmise jusqu'à nous; aujourd'hui la civilisation a dégrossi nos moeurs et nous satisfaisons ce goût inné pour la compagnie de nos semblables en nous réunissant avec des intentions qui n'ont rien de belliqueux.

Les sociétés d'études dentaires sont un des multiples aspects que prend notre

aspiration naturelle pour la fréquentation de nos congénères.

Elles remplissent un second but; c'est de provoquer l'échange des connaissances et des expériences, que chacun ne peut manquer d'acquérir dans ses activités professionnelles. Et c'est encore un sentiment naturel que cette communication de ses pensées à des êtres qui savent les comprendre. On a jadis taxé de fadeur et de convention les rôles de confident des tragédies classiques; nous croyons que c'est bien à tort, car la communication de ses impressions et le récit de ses confidences intimes est un phénomène des plus humains et des plus naturels.

Tous tirent un profit des opinions de leurs frères d'armes et la discussion d'idées différentes amène toujours un con-

cept plus clair des représentations personnelles. L'existence des sociétés d'études dentaires s'impose parce que notre science est relativement jeune; nous sommes encore dans la période d'expertises et de tâtonnement; chaque jour apporte des perfectionnements et des améliorations à un matériel, à une instrumentation et à des méthodes qui nous semblaient parfaits.

Le traitement des dents n'est plus ce qu'il était il y a vingt-cinq ans et un des seuls moyens mis à la disposition des praticiens de se tenir à la page, réside dans leur adhésion et leur assistance aux cliniques et aux conférences des sociétés scientifiques.

Les dentistes ont besoin des associations d'études pour maintenir leur compétence à point et les sociétés requièrent, de leur côté, le soutien et la collaboration des dentistes pour augmenter leur activités et faire toujours mieux et plus grand.

Les universités américaines nous fournissent un exemple dans ce domaine. La collaboration étroite qui existe entre les divers départements scientifiques permet de réaliser des travaux qui portent leurs fruits dans le champ des découvertes.

Peut-être est-ce manque d'esprit d'observation de la part de l'auteur de ces lignes, mais il semble que les latins que nous sommes, n'ont pas cet esprit de corps et de cohésion, offert en spectacle par nos compatriotes anglo-saxons.

Nous sommes naturellement portés à nous replier en nous-mêmes et à regarder nos frères de profession comme des individus, qui ne cherchent qu'à nous nuire et qu'à nous supplanter dans notre pratique. Nos voisins anglais ou américains, au contraire multiplient les congrès, fondent des associations d'études et collaborent à répandre et à vulgariser les données de notre science.

Cependant quelques dentistes canadiens-français du Québec ont compris cette nécessité d'études collectives; la Société

Dentaire de Montréal a vu le jour en 1925 et continue depuis à fournir l'occasion aux dentistes du district de Montréal d'entendre des conférenciers locaux et étrangers.

Il serait intéressant mais malheureusement trop long de dresser une liste des hommes de marque de la profession qui, au cours des années dernières, ont apporté les lumières de leur science aux membres de la Société Dentaire de Montréal. Des dentistes éminents d'Europe, d'Amérique Centrale, des Etats-Unis et du Canada ont été tour à tour les hôtes de la Société.

Des groupements identiques existent à Québec et aux Trois-Rivières; la Société Stomatologique de Québec offre aussi aux dentistes de la cité de Champlain l'opportunité d'approfondir en commun certains problèmes dentaires et invite de temps à autre des conférenciers et des cliniciens de l'extérieur à lui présenter des travaux; la Société Dentaire des Trois-Rivières poursuit le même but en disposant des mêmes moyens.

Il serait à souhaiter que des groupements analogues soient institués dans tous les centres de la province, où sont installés plusieurs dentistes; St-Hyacinthe et Hull seraient des endroits tout indiqués pour la fondation de sociétés d'études, car ces régions comptent plusieurs dentistes au nombre de leurs citoyens.

La Société Dentaire de Montréal a pris cette année une initiative des plus intéressantes: c'est celle de grouper en Fédération les Sociétés Dentaires de la Province de Québec. Ce rapprochement permettrait à ces associations de collaborer plus étroitement pour l'échange de conférenciers et pour l'orientation des recherches.

Nous conseillons fortement aux dentistes de chez nous de s'inscrire aux sociétés dentaires de leur région et d'en tirer le plus grand bénéfice possible.

*Gérard de Montigny.*

# Dentistes, Gagnez-Vous Votre Vie? \*

par CONRAD GODIN, D.D.S.

**L**A CRISE économique est devenue, chacun le sait, le bouc émissaire de tous les maux de la création. Ainsi dans le monde professionnel, on l'accuse d'être la cause du marasme dans lequel on se débat. Pourtant si on y regarde d'un peu près, nous verrons que chez-nous, chirurgiens-dentistes, certaines lacunes sont en partie responsables de la stagnation de nos affaires.

Examinons ensemble, si vous le voulez bien, la situation actuelle. Je suis prêt à admettre comme vous, qu'en général, le public se désintéresse par pénurie d'argent bien souvent, de la condition sanitaire de sa bouche; ou bien il s'éloigne du praticien compétent pour recourir aux soins du premier charlatan venu, et cela au détriment de sa santé et de la prospérité de notre profession.

Cette constatation faite, cherchons maintenant les moyens d'y remédier. Heureusement, vous le verrez, ils sont à notre portée, puisque dans bien des cas, ce sont nos propres déficiences qui sont la cause de ce regrettable état de choses. Ainsi, par exemple, quels sont les dentistes qui, une fois leur diplôme obtenu, continuent d'étudier, et se tiennent au courant des découvertes et des perfectionnements qui chaque jour enrichissent la science dentaire? Ayons la sincérité d'avouer qu'ils sont très rares.

Et pourtant, c'est d'une évidence incontestable que le livre est l'instrument par excellence du travailleur intellectuel. Commençons donc par nous constituer une bonne bibliothèque dentaire. Nos manuels en formeront le noyau sans cesse enrichi par la production quotidienne: revues, articles de journaux, compte-

rendus de congrès, etc. Grâce à un système d'index, nous saurons exactement et sans perte de temps où se trouve la source d'information nécessaire, quel auteur consulter, quel catalogue parcourir. Classons soigneusement au fur et à mesure les renseignements de valeur qui nous tombent sous la main. Choisissons intelligemment nos abonnements aux revues scientifiques, sacrifions la quantité à la qualité, mais lisons-les, utilisant pour ce faire le moindre instant de loisir, nous doublerons ainsi l'emploi du temps.

Deuxième pas vers la compétence: étudier, en pratique, chacun des cas qui nous sont soumis et en prenant contact avec le patient, le mettre en confiance. Après avoir interrogé celui-ci sur le nature de ses malaises, on doit faire un examen complet de l'appareil dentaire avant de poser un diagnostic. Puis avec tact et mesure il faut renseigner le patient sur son état, s'enquérir de ses possibilités pécuniaires, et enfin suggérer les traitements appropriés.

Une bonne tactique, c'est de commencer tout traitement par une prophylaxie; cela impressionnera favorablement le malade; j'insiste sur l'usage du cône de caoutchouc plutôt que celui de la brosse qui est désagréable à tous points de vue. Cette première opération rassure habituellement le patient, le met en confiance et le décide à poursuivre les traitements que lui recommande son dentiste.

Ici, la question de l'instrumentation se pose. On ne saurait trop insister sur la nécessité d'instruments au point, en parfait état de conservation et de stérilisation. Le procédé peut sembler coûteux de prime abord, mais n'est-ce pas le résultat définitif qui seul compte? La méthode qui consiste à traiter une dent

\* Causerie prononcée devant la Société Dentaire de Montréal, en novembre 1936.

ou deux à chaque séance semble la meilleure: praticien et patient y trouvent leur profit. A ce rythme les travaux progressent normalement et le patient guéri et satisfait deviendra alors votre meilleur médium de publicité.

Un mot seulement sur les cas de dentiers. D'une façon générale, les dentistes se plaignent que leurs clients une fois débarrassés de leurs dents leur échappent. Un peu de psychologie peut remédier à cet état de choses. Avant l'extraction, prendre soigneusement les impressions (haut et bas) que nous coulerons en plâtre au laboratoire. Il est bon de mesurer aussi la distance du nez au menton, et de se rendre compte de la distance des centrales et des incisives dépassant la lèvre. Il faut insister auprès du patient sur la valeur de ces pièces et de ces informations. D'où confiance, garantie de satisfaction et retour de ce dernier.

Un autre item à ne pas négliger dans la formation d'une clientèle, c'est la pédodontie ou dentisterie chez les enfants. C'est un point initial de la prévention, c'est aussi le gage d'avenir de la profession. C'est le noyau qui entraîne une phalange de parents et d'amis et l'enfant constitue le meilleur patient, présent et futur; si nous avons soin de le bien suivre, il ne se détachera jamais de nous.

Et maintenant, une recommandation: dès que le traitement d'un patient est entièrement terminé, il faut l'inscrire sur une fiche, que nous classerons "système de rappel". Le nom, l'adresse, l'appel téléphonique, et la date de la dernière visite. Après six mois écoulés, le dentiste téléphonera lui-même à son patient, l'invitera à passer le voir pour un simple examen. Presqu' infailliblement celui-ci se rendra à cette sollicitation, d'où formation d'une solide et fidèle clientèle.

La compétence scientifique du dentiste assurée, il ne lui reste plus qu'à établir

son cabinet dentaire sur une base commerciale. D'où nécessité d'une comptabilité journalière et d'un budget bien équilibré. C'est la clef du succès. Si la comptabilité est bien faite quotidiennement le budget sera facile à établir.

Le budget mensuel consiste en loyer, téléphone, électricité, gaz, assistance, buanderie, petite caisse, laboratoire, contributions, matériel, etc., puis le salaire personnel. Comment cela coûte-t-il par mois? Il y a 25 jours productifs dans le mois, et nous avons X heures d'ouvrage en moyenne par jour. Il nous faut donc faire X dollars pour rencontrer le budget mensuel. Le budget annuel comporte tous les budgets mensuels plus ce qui se présente moins souvent que tous les mois, tel que: assurances, revues, contributions, réparations, améliorations, conventions, vacances, maladies, imprévus etc. Après avoir fait votre budget annuel, il faut le diviser en mois, semaines, jours, heures, ainsi vous pourrez évaluer la valeur de chaque instant, précieux stimulant au travail.

Ici, se greffe le problème de la collaboration. De toute évidence, le dentiste doit s'assurer les services d'une aide, qu'il choisira d'un abord sympathique et d'une compétence aussi générale que possible. Elle devra cumuler les fonctions de comptable, secrétaire, c'est elle qui recevra les patients, et surtout c'est elle qui assistera le dentiste au fauteuil. Elle devra préparer la table, les instruments, stériliser le champ opératoire de façon à ce qu'à son arrivée le dentiste puisse commencer tout de suite l'opération. L'aide pourra préparer elle-même l'amalgame, les ciments, les porcelaines synthétiques, le plâtre et tous autres matériels employés. Donnons-lui la petite caisse, le livre de rendez-vous, le système de rappel, toutes besognes qui nous font perdre un temps précieux. Bref, une aide bien entraînée est indispensable à un praticien sérieux.

Avant de terminer, permettez-moi un



mot sur la question rendez-vous. Elle est d'une grande importance, c'est le rouage qui permet de remplir utilement toutes les heures destinées au travail. Sachons, dans la distribution des rendez-vous, accommoder chaque patient en nous enquérant sur ses obligations. Ainsi, par exemple, nous savons que les religieux, tôt levés, sont disponibles dans la matinée: gardons ces heures difficiles à remplir, pour eux. Equilibrons ainsi toutes nos journées au meilleur de notre connaissance. D'un côté les retards fâcheux seront évités, et de l'autre, nous travaillerons en toute tranquillité d'esprit.

Et maintenant, chers confrères, il me reste à remercier sincèrement la Société

Dentaire de m'avoir procuré le privilège de vous entretenir de ces multiples problèmes d'actualité, sur la pratique de la dentisterie. J'espère que ces quelques données vous seront d'une certaine utilité. Il me reste à formuler le voeu d'une entente, d'une collaboration toujours plus parfaite entre nous. L'esprit de corps n'est pas habituellement notre qualité nationale, et pourtant c'est depuis toujours qu'on nous enseigne que "L'union fait la force". Faisons—cause commune, une fois pour toute, et ce pour le plus grand bien de cette profession dentaire à laquelle nous sommes fiers d'appartenir.

*Trois-Rivières, novembre 1936.*

## Revue des Revues:

Numéro de décembre 1936 du "*Dental Digest*" (vol. 42-no. 12)

"*Les silicates et leur manipulation*", par J. W. Roush, D.D.S., Oakland, California.

L'auteur formule les règles générales, qui doivent présider à l'emploi des silicates dans l'obturation des dents et des conseils pratiques pour obvier aux inconvénients et aux faillites trop fréquentes, que présentent ces substances obturatrices. Cet article couvre toute la matière ayant trait aux silicates: la composition des poudres et liquides, la préparation des cavités, le malaxage du silicate, son insertion, les précautions que le dentiste doit prendre pour prévenir sa contraction et son expansion, la protection des pulpes des dents et le maintien de la couleur du silicate.

"*Le traitement d'ostéomyélite de la mâchoire au moyen de larves stérilisées*", par Douglas H. Irwin, D.D.S., Kansas City, Missouri.

Le traitement des infections super-

ficielles au moyen de larves n'est pas nouveau, mais il a pris de l'ampleur au cours de la Grande Guerre; depuis on l'emploie assez couramment dans les gangrènes osseuses ou autres.

Cette "lavo-thérapie" est basée sur le principe suivant: 1) le pH de la région infectée, qui est ordinairement acide et qui favorise l'éclosion et le développement des bactéries, devient alcalin sous l'influence de la liquéfaction des protéines par les larves; 2) le tissu nécrose est absorbé par les larves et cette élimination est accélérée par la faculté des larves de liquéfier leur nourriture; 3) des foyers de putréfaction invisibles et ignorés par la chirurgie sont atteints par les larves; 4) les tissus semblent profiter du calcium sécrété par les larves pour reprendre plus tôt leur vitalité; 5) le tissu sain est ignoré par les larves et seul le tissu gangrené les intéresse.

L'auteur a traité avec succès plusieurs

cas d'ostéomyélite de la mâchoire au moyen de larves et rapporte dans son article ses méthodes et ses résultats.

"L'opération dite 'des broquettes'", par Lloyd I. Gilbert, D.D.S., Fargo, North Dakota.

Cet article traite d'une méthode d'élimination des insertions musculaires supérieures trop basses, qui nuisent à la parfaite adaptation d'une pièce de prothèse.

L'auteur sectionne et dissèque les insertions jusqu'à la hauteur désirée, il enfonce dans la plaque corticale osseuse deux broquettes ordinaires et il place entre cet os exposé et le repli muqueux du ciment chirurgical, qui tient en place grâce aux broquettes enfoncées dans l'os.

Ce ciment chirurgical est laissé "in situ" douze ou quatorze jours; durant ce temps, un tissu de granulation recouvre

l'os mis à jour et recouvert par le ciment; le tissu musculaire qui servait d'attache se cicatrise et guérit.

L'article est illustré de dessins bien clairs.

"Ponts fixes spéciaux", par E. D. Shosham, D.D.S., Pasadena, California.

Le but de cet article, est de présenter deux moyens de remplacer des dents: le premier cas consiste à substituer une lière ou une 2<sup>ème</sup> molaire inférieure (ou les deux) sans trace d'or aux faces occlusales. Le 2<sup>ème</sup> cas comprend le remplacement d'une incisive inférieure au moyen d'un pont d'or fixé aux deux dents adjacentes, à l'aide d'incrustations à épingles.

L'auteur nous montre là deux façons simples et parfaites au point de vue esthétique de remplacer des dents absentes.

Gérard de Montigny.

## "Journal of the American Dental Association", janvier 1937

"La préparation des cavités sur les dents temporaires", par George E. Morgan, D.D.S., Milwaukee, Wis.

Le Dr. Morgan appuie sur le fait que la préparation des cavités sur les dents temporaires et permanentes doit différer à cause de l'anatomie des premières.

Les erreurs trop souvent commises sont dues 1) au peu d'importance attachée aux dents temporaires; 2) à l'ignorance des caractéristiques anatomiques des dents temporaires comparées à celles des dents permanentes; 3) à la négligence d'entrevoir les relations entre la préparation de la cavité et l'obturation complétée; 4) à l'incapacité d'appliquer les données récentes de la préparation des cavités sur les dents temporaires.

L'auteur indique le traitement des dents d'enfants par des méthodes simples et efficaces.

"L'os des mâchoires et ses relations avec les appareils de prothèse dentaire", par V. C. Smedley, D.D.S., Denver, Colo.

La résorption plus ou moins prononcée des crêtes alvéolaires n'est pas due uniquement, comme on le pense, à l'âge du patient et à l'état de ses gencives quand il était en possession de ses dents; deux facteurs plus importants entrent dans l'intégrité osseuse des mâchoires; ce sont le degré de calcification de l'os et l'adaptation fautive de certains dentiers.

On doit, autant que faire se peut, procurer aux porteurs de dentiers des bases solides par une nourriture faite de sels minéraux et de vitamines D; le maintien de l'état normal des crêtes s'impose par l'ajustement correct des dentiers et le balancement de l'articulation. Ces précautions ont en outre l'avantage de prévenir certaines névralgies de la tête d'étiologie obscure.

*"Les possibilités et les limites des différents modes de traitement des maladies de la membrane péri-dentaire"*, par Raoul H. Blanquie, D.D.S., F.A.C.D., San-Francisco, Cal.

L'auteur fait une revue et commente les différentes méthodes employées dans le traitement de la pyorrhée; il souligne les cas favorables à tel ou tel traitement et discute les conditions qui doivent présumer au choix d'un procédé.

Le Docteur Blanquie avoue que le dernier mot n'est pas trouvé dans l'étiologie de ces affections de la gencive et recommande la prévention plutôt que la guérison.

*"Névralgie du trijumeau"*, par Byron C. Loomis, D.M.D., Portland, Ore.

Il y a plusieurs genres de névralgies dites du trijumeau. Une connaissance approfondie du sujet éliminera un diagnostic erronné, préservera le patient de traitements et d'opérations inutiles et préviendra une perte de temps, d'argent et souvent de dents saines. L'essai du trichlorethylene par inhalation semble justifié et les injections alcoolisées ont leur place et sont parfois nécessaires. Quand l'emploi de ces méthodes n'amène pas de soulagement, la résection de la branche sensitive du ganglion de Gasser s'impose et l'opération ne doit pas tarder à condition que les risques opératoires ne soient pas trop grands.

*"Les suites désastreuses de la perte d'une dent"*, par Isador Hirschfeld, D.D.S., New-York.

Le Dr. Hirschfeld avec un esprit de synthèse remarquable énumère et brosse un tableau éloquent des inconvénients produits par l'extraction d'une seule dent: perte de la symétrie des lignes de la figure, caries, affections de la membrane péri-dentaire etc. L'auteur déplore la négligence du dentiste à montrer au

patient les méfaits produits par l'extraction d'une dent et à combler dans le plus bref délai possible cet espace susceptible d'amener toute une kyrielle de malheurs.

Cet article contient une classification très claire et très logique des suites de l'extraction d'une seule dent.

*"Les faillites de la dentisterie opératoire"*, par James Mark Prime, D.D.Sc., F.A.C.D., Omaha, Nebr.

Cet article pourrait être intitulé un "pot-pourri" des méthodes fautives employées par les dentistes dans leurs opérations de dentisterie opératoire.

L'auteur constate d'abord la faillite des ciments en usage pour l'obturation des dents et le peu de précaution prise par le dentiste pour assurer la stérilité des cavités.

Il recommande l'usage de la digue en caoutchouc, seul moyen, dit-il, de prolonger la durée des obturations; en un mot il expose franchement les déficiences de la dentisterie opératoire telle que pratiquée par la majorité des membres de notre profession.

*"L'usage de la radiographie en pédodontie"*, par Henry Cline Fixott, D.M.D., F.A.C.D., Portland, Ore.

L'auteur parle des avantages de l'emploi de la radiographie pour l'examen et le diagnostic des dents chez les enfants. Depuis l'âge de deux ans les enfants devraient subir un examen radiographique de leurs dents tous les six mois pour suivre le développement des dents temporaires et permanentes, pour découvrir des facteurs de malocclusion, de croissance anormale et de pathologie plus sérieuse.

Par exemple, l'auteur cite des statistiques pour démontrer que l'emploi l'examen de la radiographie révèle un nombre de caries de 25% à 40% plus grand que l'examen sans radiographie.

Gérard de Montigny.

# Nouvelles des Sociétés Dentaires de la Province

## *La Société de Stomatologie de Québec*

JEUDI, le 10 décembre 1936, sous la présidence du Docteur Gustave Ratté, la Société de Stomatologie de Québec tenait sa séance régulière du mois.

Les conférenciers, à cette occasion, étaient les Docteurs Jules Hamel et Emile Beaulieu.

Le Dr. Hamel offrit à ses confrères ses impressions sur le "Dental Fall Clinic", tenu en octobre dernier à Montréal, sous les auspices du Montreal Dental Club. Le Dr. Hamel fit une brève revue du programme du congrès, en soulignant et

commentant les cliniques ou travaux d'intérêt pratique.

Le Dr. Beaulieu entretint les membres de la Société de diététique et d'alimentation. A la lumière des découvertes récentes faites sur les relations des vitamines, du métabolisme du calcium et de l'endocrinologie sur la formation et l'éruption des dents, le Dr. Beaulieu montra à l'auditoire le rôle du dentiste dans l'établissement d'une diète ou d'un régime alimentaire susceptible de procurer une dentition saine et normale.

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## Rapaillages

Nos félicitations au Dr. Bernard Lapointe (1933), qui est l'heureux père d'une fille. Puisse la nouvelle année apporter maintenant un gros garçon.

Le Docteur et Mme. Paul Geoffrion ainsi que leur fillette, sont de retour de Haïti, les invités du Dr. et Mme. Jules Thébaud.

Il nous fait plaisir d'apprendre que notre confrère le Dr. J. T. Houle de Shawinigan est en voie de se rétablir

après un sérieux accident d'auto. Tous nos vœux pour un prompt rétablissement.

Le Dr. Lamarche de Maniwaki a épousé Mlle. Liliane Gravel de Montréal, fille de feu le Juge Gravel de Gravelbourg.

Le Dr. Paul Labelle a épousé, samedi le 16 janvier, Mlle. Jacqueline Lefavre de Montréal.

Aux nouveaux époux, notre Journal est heureux d'offrir ses meilleurs vœux.

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## 111ème Congrès des Dentistes de Langue Française de l'Amérique du Nord

LES Anciens de la Faculté de Chirurgie-Dentaire ont le plaisir d'annoncer qu'ils organisent le troisième congrès des Dentistes de langue française de l'Amérique du Nord. Ce congrès aura lieu les jeudi, vendredi et samedi, les 27, 28 et 29 mai 1937.

Déjà les comités sont formés. Les

membres sont à l'oeuvre; et, par l'activité qu'ils déploient, l'on peut, dès maintenant, prédire un succès sans précédent.

Nous attirons votre attention sur le fait que le congrès coïncide avec la réunion annuelle de tous les Diplômés de l'Université de Montréal, à laquelle les congressistes sont spécialement invités.





*By courtesy of "The Beaver".*

Another portage left behind en route  
from Norway House to Island Lake.



HARROLD CAMPBELL, L.D.S., D.D.S.,  
Orangeville, Ontario.

President of the Ontario Dental Association. Dr. Campbell has been active in municipal life for twenty-five years as Councillor, Deputy-Reeve, Reeve, Mayor and Hydro Commissioner. Dr. Campbell has also been through the chairs in Masonry and has found time to enthuse over lacrosse, hockey, curling, golf and horticulture.



## The Cardiovascular System from the Dentist's Point of View\*

by G. R. BROW, M.D., F.R.C.P. (C.), Montreal, Quebec.

THOSE who have heart disease usually die sooner than those who do not, and while they are alive spend more days in bed and fewer working. This handicap or early death in those with heart disease may occur in one of four ways: by heart failure, or inability of the heart to do its work, which is the most important; by infection of the heart itself; more rarely, by the formation of a thrombus in the heart, which releases floating particles that produce embolism; finally, in many heart-disease patients, by a lowering of bodily resistance from chronic anoxemia, increasing liability to intercurrent infection.

In all medicine a changing terminology is a source of confusion; with heart disease this is particularly true. In the early days the patient with heart failure was said to have an asthma or a dropsy; a few hundred years later, when structural changes were correlated with symptoms, the same disease was called hypertrophy, myocarditis, pericarditis, or mitral stenosis. After another hundred years or so the same disease might have been called auricular fibrillation, or auricular flutter. The first names were those of symptoms; later they referred to struc-

tural changes, and still later to functional changes. At present we are beginning to use names that refer to the *cause* of these symptoms and changes. A proper conception of a patient with heart disease requires that one think in terms first of cause, then of change of structure, and last of change of function and ability of the heart to do work.

From this standpoint of cause there are two great classes of heart disease: congenital and acquired. The *congenital* form has the same relation to heart disease that hare lip and cleft palate have to oral surgery. Most babies born with congenital heart disease die immediately; some live a few days; a few live to adolescence; and a very few grow up. The pediatrician sees congenital heart disease much more often than the physician who treats only adults. About one-third of these patients die of secondary infection of the heart valves—subacute bacterial endocarditis—one of the diseases that may be induced by bacteremia resulting from an infected tooth. But congenital heart disease is relatively rare, and in general is not of particular interest to the dentist.

The *acquired* forms of heart disease

\*Presented at the Montreal Dental Club, November 23, 1936.

comprise four broad groups: infections, toxic, degenerative and neurogenic.

#### INFECTIOUS HEART DISEASES

The *infectious* forms of heart disease may be divided into three clinical groups: acute, subacute, and chronic, with a fourth if we include rheumatic heart disease as infectious.

*Acute bacterial* heart disease is caused by hemolytic streptococci, or by pneumococci, gonococci, or staphylococci. A patient with lobar pneumonia, who seems to be recovering after crisis, may have a chill with rise in temperature, and, with cardiac symptoms rarely apparent, but masked by those of the infection, may die after one or several weeks with pneumococcal endocarditis, sometimes produced by embolism. These patients with generalized acute infections always die, and are rarely thought of as having heart disease. I have seen a patient develop streptococcus hemolyticus acute bacterial endocarditis after a tooth extraction, in this case as a fresh lesion on an old healed rheumatic valve.

*Subacute bacterial endocarditis* may be caused by streptococcus viridans (which may be carried through the blood stream from foci of infection around the teeth), by *Brucella melitensis*, or rarely by the influenza bacillus. Here the picture is entirely different. The patient has usually had a previously diseased heart; I have remarked that about one-third of those with congenital heart disease die with subacute bacterial endocarditis. The disease also commonly affects healed rheumatic hearts, or sclerosed valves due to arteriosclerosis or the aortic valve in syphilis. Subacute bacterial endocarditis has a very insidious onset. The patient usually has a low fever (generally not over 101° F.) and may be hardly aware that he is sick for several weeks. Progressive anaemia develops gradually. Embolic phenomena may occur, due to minute emboli: pe-

techial hemorrhages in the skin and under the fingernails. Emboli may settle in various organs; in the kidney they result in albuminuria and transitory hematuria, and, if the emboli are larger, attacks of pain occur. Infarction may appear in the spleen, sometimes in the brain. This disease progresses much more slowly than acute bacterial endocarditis, and the patient may live for six months or more, sometimes for two years. Heart symptoms are not prominent, unless an old lesion has been recognized.

It is only fair to say that, while subacute bacterial endocarditis is tragic, in that the doctor can do little for it, it is not of great significance in medicine. Of the cardiac patients admitted to hospital, only two per cent have this disease, compared, for example, with about forty per cent with degenerative forms of heart disease.

*Chronic* forms of infectious heart disease are due to syphilis or to tuberculosis. *Syphilis* of the heart, or rather of the aorta, accounts for a small percentage of cases. Syphilitic aortitis has rather definite characteristics. It usually appears about twenty years after infection, in the majority of cases between the ages of forty and forty-five. The patient characteristically reports that he had been feeling perfectly well until, a day or two before, he felt pain across the chest, or was awakened with an attack of dyspnea. If the examination reveals a four plus Wassermann, a history of a primary lesion some twenty years before, or shows other signs of tertiary lues, and the shadow of the aorta appears widened when fluoroscoped, the diagnosis is practically assured. Since symptoms do not usually appear until some degree of coronary stenosis is present, these patients generally do not live long, in spite of treatment. Occasional well-treated patients may survive several years. If aortic insufficiency has already developed, the patient goes



down hill rapidly; but if the symptoms are due to rupture of one aortic coat, forming an aneurysm, rather than to coronary closure—incomplete closure or atresia—then, although the patient's condition seems alarming, the prognosis is better; for healing may occur, the clot in the aneurism may be resorbed, and the patient may live for many years.

*Tuberculosis* of the heart is very rare. The condition is usually associated with general tuberculosis, and can hardly be of interest to dentists.

*Rheumatic* heart disease is infectious and extremely important, but its cause is not completely understood. It is chiefly responsible for chronic valvular heart disease. It usually begins in childhood, recurs frequently through early life, and commonly causes death before the age of fifty. It is believed to be due to sensitization with a streptococcus. Two kinds of lesions are produced, the exudative, in which large amounts of exudate are formed, and the proliferative, in which new tissue is built up. If the sensitization hypothesis is correct, this sensitization occurs as a result of infection, usually in childhood. Probably the most common cause is an upper respiratory infection. Sensitization may result, however, from chronic foci such as an infected antrum, or chronic abscesses around the roots of teeth; but this cannot be common, because rheumatic fever occurs chiefly in children—indeed, in very young children, who are not likely to have root abscesses on their teeth.

There are four characteristic types of rheumatic heart disease. The first, or *fulminating* form, is very similar to acute bacterial endocarditis: the patient is very sick and dies in a short time with general pancarditis; but this is rare. The healing, *inactive* form is more common. Here scar formation impairs the efficiency of the heart; but the patient's reserve is nearly always good, and the danger lies in

recurrence. Yet a child with this form of the disease is badly handicapped, and the length of his life is shortened. The doctor tries to eliminate all possible foci of infection in these cases, in an effort to prevent recurrences. In the *chronically active* form of rheumatic heart disease there is no healing. The patient may continue for four, five or six years, nearly always with low fever, as in pulmonary tuberculosis or anaemia, but cardiac resistance is diminished, and the heart rate is a little high. These cases are very baffling. Here also we try to clear up every focus of infection. Occasionally after diseased tonsils or abscessed teeth are removed a case clears up, and becomes quiescent.

The fourth clinical type is the one we like best—that in which a rheumatic heart infection has healed without recurrence. We would like to have all patients with rheumatic heart disease pass into an inactive state with a scar, and stay that way. But commonly the original infection recurs, or another infection of the heart valves develops.

In referring to the various types of rheumatic infection of the heart one must not overlook the fact that not only the endocardium (valve) becomes involved but also the myocardium and pericardium. The myocardium may be the only site of rheumatic disease and in this we look for evidences of heart muscle weakness in symptoms of shortness of breath, cough, cyanosis and oedema as well as palpitation—all of these symptoms become manifest during effort or exertion on the part of the individual. Frequently only the endocardium becomes invaded while in other individuals the myocardium alone suffers.

It is of great importance that you as dental surgeons should be acquainted with the particular form of rheumatic heart disease that your patient suffers from.

In the cases of purely rheumatic valvu-

lar disease one must be informed as to whether there is an active valvulitis present or whether the infection is quiescent and well healed. In the active forms of rheumatic valvular disease I think it wise to forego any very active removal of infected teeth. If such however be considered for removal, then only a minimum of dental surgery should be undertaken. If teeth be shown to be infected at the apices but these are quiescent, then I personally feel these should be left until such a time as all evidence of active rheumatic valvular disease has passed. The danger in extraction of infected teeth during active as well as in the presence of old scarred and healed rheumatic valvular disease, is due to the possible stirring up of the infection about the dental root socket and giving rise to bacterial invasion of the general blood stream. Looking up reported cases over the past five years in the literature of acute bacterial endocarditis, I was rather interested to find that most of these had occurred following upon the extraction of infected teeth. The organism recovered was that of the streptococcus viridans type to which I have already referred.

It has been suggested by several writers that one might obtain some information from these cases of infected teeth by noting whether, after removal of such teeth and obtaining a culture of the organisms found, that taking the blood serum from the same individual and noting whether there are any bactericidal properties present in the blood and whether a differential blood count shows a definite shift of the polymorphonuclear cells to the left. This would aid in determining whether a lowered resistance to these organisms existed or not, and if present would be a factor in deciding whether other teeth should be extracted.

Almost unanimous in these written records is the opinion that local anaes-

thetic infiltration about the teeth to be removed is to be avoided. Curetting of the alveolar socket after removal and packing of this socket is all deprecated as it is felt these measures only aid in the possible liberation of the organisms into the general blood stream. The points of interest for the dentist in respect to the rheumatic myocardial cases are whether the individual's heart and general circulation are fully compensated, or whether such weakness of the heart muscle will permit of a general or local form of anaesthesia. The active rheumatic myocardial cases will show some evidences of myocardial failure or general venous congestion. These will not permit the use of gas oxygen or ether anaesthesia, while those of chronic myocardial changes may, provided there are no evidences of passive congestion. In the active forms, if extraction is decided upon, local nerve blocking should be the anaesthesia of choice. An accurate estimation, therefore, of the heart and its efficiency should be formed by the physician before the case reaches the dental chair.

#### TOXIC HEART DISEASES

The second large group of heart diseases are those due to toxicosis or toxemia. In this class are included the effects of vegetable poisons, such as digitalis, an overdose of which may stop or kill the heart. Other substances are manufactured in the body; an over-active thyroid produces thyrotoxicosis. Still others are the toxins of bacteria, which, although not produced in the heart valves, reach and affect the heart from a focus elsewhere. A toxic myocarditis used to be seen frequently in diphtheria, but has been made less common by the use of antitoxin. This very severe condition was formerly the cause of death in many diphtheria cases. Chronic toxemias of other kinds are more important to the dentist. A patient with a chronic infec-

tion, such as that of a sinus, has impaired muscular efficiency generally; if he has any form of heart disease, with diminished cardiac reserve, the chronic toxemia throws an additional burden on his heart. When chronic infections in these patients are cleared up, the patient bounces up like a rubber ball; his heart condition remains, but the added burden on it has been removed. Such relief occurs when chronically infected teeth, from which toxins are steadily absorbed, are removed.

#### DEGENERATIVE HEART DISEASES

The degenerative forms of heart disease are most important in adults. They are properly arteriosclerosis, which may or may not be associated with hypertension. The disease begins insidiously, and proceeds gradually, often very slowly, as a progressive loss of elasticity of the blood vessels. Probably everyone over forty-five is affected, but those active physically develop symptoms earlier.

Symptoms of heart disease appear when the coronary vessels are affected. Beginning *coronary thrombosis* may show itself as a feeling of tightness across the chest on walking, increasing for two or three years; and then often, following an effort, there is a very severe sudden pain, resulting from occlusion of a coronary vessel. Such an attack is fatal to about twenty per cent. The remainder survive and slowly get better, although they do not recover completely, and have less chance of recovery after a later attack.

Heart irregularities, particularly *auricular fibrillation*, develop in about half the patients with arteriosclerosis, independently of coronary thrombosis. The irregular rapid heart rhythm aggravates the inefficiency of the heart, and results rapidly in heart failure unless the rhythm is steadied by the continual use of drugs. If the drugs are discontinued, the symptoms reappear.

Patients with degenerative heart disease are of interest to dentists for two reasons: they are very much better off if they do not have chronic mouth or other infections with their resulting intoxications; and they are likely to be a poor risk for dental operations. I have never actually known an accident of this kind to happen in a dentist's chair, but I have seen these patients turn over in bed and die, and witnessed many other tragic coronary deaths. The patient must be sent to the dentist if he needs dental work, and the dentist must chance the treatment; but he should be advised of the circumstances by the medical examiner, and the latter should be available on call.

Having spoken already in respect to the infectious forms of heart diseases, one has to consider in a like manner the toxic and degenerative forms of heart disorders.

Under the toxic forms one again considers principally the state of myocardial efficiency or insufficiency. In this respect you must understand whether the heart muscle is capable of maintaining a proper and effective general supply of the blood to all parts of the body. Knowing this, it is really a consideration of the form of anaesthesia to be used, and again I wish to emphasize the importance of nerve block in preference to general anaesthesia if there is any evidence whatsoever of a failing or congesting circulation.

The degenerative forms of heart disease are also quite a definite problem to the dental as well as the medical profession. These occur mostly in adult life as I have already stated, and represent the wear and tear that the heart has undergone during the individual's life span. One might think at first that this represented principally the older age groups, but today I regret to have to state that this is far from true. Due to our ever increasing haste in our methods of life, particularly in the large centres of

population, we are finding greater and greater numbers of individuals in their thirties and forties who are showing the degenerative forms of heart disease. One may argue that this is partly or perhaps principally due to more individuals reaching this time in life due to our better care of the individual in his or her earlier years. I do not, however, think this plays a very great part, but am convinced that our great rush and hurried existence to-day plays havoc with our heart and general vascular systems.

Underlying this great class to-day, and these form the greater percentage of our hospitalized heart cases, is the arteriosclerotic and coronary sclerotic processes. For you it is important that you should be acquainted with the degree of such changes in these individuals before undertaking any dental extractions. Be informed in all of these, as to whether the case shows evidence of active coronary disease or whether it be one of a quiescent type. The active cases stand operative interference badly, and your choice of anaesthesia here is of paramount importance. General anaesthesia is contra-indicated, but local nerve blocking may be resorted to. In respect to local anaesthesia I would emphasize the importance of avoiding the use of adrenalin as it may easily precipitate either an anginal attack or possibly an extrasystolic tachycardia. In high strung super-sympathetic types, it is well to give phenobarbital beforehand to quiet the sympathetic nervous system. If the sympathetic nervous manifestations are not controlled, then one may have an outpouring of adrenalin from the individual's own glands resulting in anginal attacks or paroxysms of tachycardia. This may in a few cases be quite serious and end fatally.

#### NEUROGENIC HEART DISEASE

The fourth type of heart disease is not really heart disease at all, but psychosis, psycho-neurosis, or neurosis. The group includes patients whose symptoms, although they attribute them to disordered hearts, are actually due to trouble elsewhere. About half the people who come to one's office are of this sort, as are probably most of those who, in the dentist's chair, cry, "Oh, my heart!" Patients who have heart disease, unless they have anginal pain, generally do little complaining. The others have unstable nervous systems, and are liable to sudden collapse in a dental chair. Yet they have attacks of palpitation and other functional heart disorders, but these are not dangerous. The only way to be sure of patients with such symptoms is to have them thoroughly examined, to determine whether or not organic heart disease is present.

#### CONCLUSION

I have tried to survey the heart diseases very briefly, to note their great variety, and the differences in their causes, courses, and symptoms. We are all interested in them because they produce death, or cause handicap, each the result of heart failure due to infection or embolism. Such heart failure, if it does not produce death directly, results in lowered resistance, opening the way to intercurrent infection. I have tried to bring out points of contact between the physician and the dentist. I have not, of course, covered the subject completely, but have had to leave out many things.

One final point in my conclusions I would like to place before you, and that is that no patient should be subjected to multiple extractions of teeth nor undergo elaborate restorations who clearly has only a short while to live, when one considers the markedly impaired heart function.



# Chairside Psychology\*

by GEORGE WOOD CLAPP, D.D.S., New York City.

**A**MONG other problems this paper will seek to answer the question as to why only three dentists out of ten are successful. Before going any farther, perhaps we should have a definition of success. Let us regard that dentist as professionally successful who renders to his patients intelligent, competent and honest service; and as economically successful who earns for himself and his dependents, comfort and some luxury for the present as well as security for the future.

## RELATIONSHIP OF PSYCHOLOGY TO SUCCESS

There is a demonstrable relation between wise psychology and success and unwise psychology and failure. Observation points to the fact that successful dentists follow psychological principles which are fundamentally identical while the unsuccessful men follow principles, common to their group, but which are very different to those followed by the successful men.

What is psychology? It is the study of how we express ourselves in everything we have and do—our surroundings, dress, manner, speech and even our silence. At present we shall limit our study as to how to talk to people who seek our service or how to talk to people in order to create in them a desire to come to our offices.

Back of our conversation lie all the things we think and are, and we should examine these influences and put them in order, as one would place instruments in a cabinet, for if our thoughts are confused, our talk will be unpersuasive.

## COMPONENT PARTS OF DENTAL PRACTICE

Dentistry is a profession, a craft and a business. As a means of service it is a profession, while as a means of livelihood it is a business. "A healing profession is a fund of scientific knowledge to be used in advising, guiding and teaching people for their own good, and afterwards, in serving them by means of a craft founded on that profession." We cannot live, however, by the practice of the profession alone, as a medical consultant can. We live by the practice of the craft.

A profession has only three functions—diagnosis, prescription and teaching, while the craft renders the manual part of service—that is prophylaxis, restorations, replacements and surgery. Almost invariably the all-round successful dentist is professionally minded. He is a competent diagnostician, an able and honest prescriptionist, a good teacher and a clever craftsman. He is much more than this, but we shall discuss that later.

Generally speaking, the greatest single cause for individual failure is the effort to make the craft of dentistry take the place of the profession.

Substitution of the craft for the profession invites failure because it has no answer for the fundamental problems of dental disease. It knows too little about the things people are interested in—appearance, comfort, health and economy. It is, in fact, repellant to other people as suggesting discomfort and expense.

While craft relieves pain, corrects disfigurement and conserves health, it is not

\*Presented at the Twelfth Annual Fall Clinic of the Montreal Dental Club and compiled from notes taken at this meeting by one of the audience. Approved by the author.



GEORGE WOOD CLAPP

swerving integrity, else the sooner we are out of the profession, the better for all concerned.

Business will determine your standards of office conduct. The profession and the craft cannot do it. However, the standards of any dental office do not have to be lowered to meet those of honourable business. The fact is that in seven offices out of ten they would have to be raised. It would take something like a revolution to get the standards of half of us up to good business levels.

To render ideal service one must acquire good and, if possible, adequate knowledge and skill, deal honestly and constructively with all, and perfect an organization that permits of good service at fair fees. The economically unsuccessful dentist is usually not a good dentist, since he cannot afford post graduate courses and equipment. He usually has a wrong and unattractive mental attitude and is a poor bet from the patient's point of view.

The successful dentist has acquired and maintained good professional knowledge, is a good technician, has adequate equipment and maintains a good office and personnel. He has learned to tell dentistry's wonderful story in an interesting, instructive and persuasive manner.

In a superficial survey of 4,000 practices in New York City, with a few individual exceptions, no dentist who followed this psychology has suffered severe hardship during the depression; in fact, many practices have grown most satisfactorily.

visibly profitable to the buyer in the same way as professional advice, which one can apply to himself and his family again and again.

Craft is likewise incapable of making dentistry's wonderful story as interesting and persuasive to people as it needs to be for their own welfare.

Furthermore, you cannot win esteem as a professional man by any conceivable skill in the craft and remuneration goes with professional esteem.

#### DENTISTRY AS A BUSINESS

The profession and craft are by no means all of practice. There is the business side of practice—the vehicle which carries one's knowledge and skill into the lives of one's patients. This vehicle should be efficient, not rickety, weak and unattractive.

We have a desirable, important and necessary service to render. We have an interesting, extremely important and persuasive story to tell. We should render that service and tell that story with un-

### THE ROAD TO SUCCESS

Never think about teeth, do anything to teeth or talk about teeth as ends in themselves but always as means to a bigger and a better end such as appearance, health, etc.

Make appointments for thorough examination, instructing in the difference between a superficial and a thorough examination. Adjust the kind of service to the person's financial level, such as using amalgam fillings instead of gold inlays.

One will have to look after the children in the family even if not on a profitable basis, as these are the ones who will keep the practice going in years to come. Do not try to do everything in the mouth at once. Remember that no care is too small to receive your best attention.

When advisable, arrange an equitable and acceptable plan of instalment payments, sometimes by doing work a little at a time, sometimes by notes at the bank or perhaps by the Washington plan.

What I am proposing is the biggest task of your career. No matter how much professional knowledge or technical skill you have, you are going to need more. You are going to learn to talk to people as they want to be talked to. You are going to enter the field of applied economics as never before. You are going to apply that knowledge to appearance, comfort, health, working efficiency and economy in the patient's life and you are going to tell people this story in non-technical words of two syllables.

### EFFECT ON THE DENTIST

The dentist with such a vision will no longer be just a filler of teeth but will work hand in hand with life itself. He will enter constructively into the lives of his patients by discovering and removing hindrances to lives. He will deal with the most important material possessions

his patients have, health, comfort, good looks, working efficiency and economy and sometimes he will turn the clock of premature old age backward.

### EFFECT ON THE PATIENT

The patient begins to understand that decay of the tooth is not merely decay of a tooth but is a sign of the body's beginning to decay and is not to be remedied merely by filling the tooth. He realizes that the cause must be found and a remedy applied.

The dentist will become in the patient's eyes something more than a mechanic with a college education. He will become a really professional man.

Educated patients will begin to seek service even beyond that which has been advised. No complaint will be made of service shown to be justified, nor will there be argument about fees. Service will be sought even at much sacrifice.

The dentist's thought on the subjects of health, disease, prescription, teaching, craft and economics must be clear. The story must be told in every-day words. It must be addressed to an objective which the patient understands, so that self interest will be aroused and it must be honest.

The dentist should carefully prepare material to be used in discussing problems with patients. Problems such as "The Expectant Mother", "The Unclean Mouth", "The Edentulous Patient", "The Neglected Back Teeth". For instance, in the care of the latter subject, one might stress the fact that decay or loss of any considerable number of back teeth means that their loss is plainly visible on the face, that sometimes the bite closes and the face shortens. Deep wrinkles form under the eyes and from the corners of the mouth. Sometimes the cheeks fall in and crazy-quilt wrinkles form in them. Sometimes cheeks fall vertically and bag at the jaw margin. The characteristic and

attractive curve of the lips is lost. No beauty specialist can take out those wrinkles. The back teeth must be repaired or replaced to restore the length and fullness of the face.

FINALLY

The mind of the buyer passes through four distinct stages — attention, interest, conviction and action. To sell yourself a plan of life as a professional man, your mind must pass through four similar stages. Vision must paint upon the walls of your mind a picture of the man you might be and the service you might render. This is an expression of attention. Interest will say "this is worth doing for me and for the public". Conviction will say "I ought to do that and I can learn to do it". The will, the engine that drives our lives continually for good

or for ill, will say "I will do it".

Will, thereafter, imposes upon yourself such an inner discipline as you may never have known. Things that have engaged much of your attention may become incidental. Things that have been partly incidental will receive great concentration.

You will first possess a great idea and do something with it. Then the great idea will possess you and do through you things you could never have done alone. Out of it, if you use common sense, a living, some luxury, reasonable security will follow. That psychological satisfaction which is so important a part of the reward of the professional man will also follow, together with the consciousness that you are a co-worker with God, and with life in the lives of those you serve.

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### *Conventions*

ONTARIO DENTAL ASSOCIATION, TORONTO, MAY 17-19.

WESTERN CANADA DENTAL SOCIETY, SASKATOON, SASKATCHEWAN, MAY 31-JUNE 2.

NEW BRUNSWICK DENTAL SOCIETY, SAINT JOHN, JULY 5-6.

MICHIGAN STATE DENTAL SOCIETY, DETROIT, APRIL 26-28.

AMERICAN ACADEMY OF PERIODONTOLOGY, ATLANTIC CITY, JULY 8-10.

AMERICAN DENTAL ASSOCIATION, ATLANTIC CITY, NEW JERSEY, JULY 12-16.

INTERNATIONAL DENTAL FEDERATION, STOCKHOLM, SWEDEN, JULY 9-14.

ASSOCIATION OF AMERICAN WOMEN DENTISTS, ATLANTIC CITY, N.J., JULY 12-16.

AMERICAN DENTAL SOCIETY OF EUROPE, PARIS, FRANCE, AUGUST 2-5.

AUSTRALIAN DENTAL CONGRESS, SYDNEY, AUGUST 16-20.

*Members of the Canadian Dental Association are cordially invited to attend the sessions of the American Dental Association, also those of the American Academy of Periodontology, being held in Atlantic City in July.*



# The Administration of Nitrous Oxide and Oxygen Anaesthesia

by FRANK JARMAN, D.D.S., Toronto, Ontario.

IT is almost a year ago that I was asked to write a paper on nitrous oxide and oxygen. Since that time I have collected many articles on the subject and, to my deep disappointment, have found a great sameness and repetition as well as some very misleading statements. In the hope that this paper might not be an additional bore, I shall endeavour to confine my remarks to the administration of the anaesthetic; so far I have not seen much in print concerning it.

Before we can hope to administer a safe and satisfactory anaesthetic, we must naturally know the symptoms and signs of light, surgical and profound anaesthesia and likewise know how to change the plane of anaesthesia when needed. A careful observer will see the signs of disturbances, often in time to avert them. For instance, vomiting during an anaesthetic is a very distressing thing but it seldom, if ever, occurs in good surgical anaesthesia but may often happen when the anaesthetic is light or too deep.

The discussion of the administration of nitrous oxide and oxygen cannot be complete without making reference to the respiration because this anaesthetic is administered, controlled and eliminated entirely by the respiration. The respiration is perhaps the broadest function in life and should not be thought of as just pulmonary respiration but as the sum total of tissue respiration or the exchange of gases during or after metabolism; the chemical composition of the blood and the function of the respiratory centre.

A rather remarkable thing is that the tissues of the body have the ability to store up extra supplies for emergency

such as blood, iron, salts, sugar, etc., but makes no provision for oxygen, the great essential of life. Oxygen must be supplied unceasingly. Another strange fact is that we could have interference of many physiological or physio-chemical processes and yet life could go on for days or weeks but life would be only a matter of minutes if internal respiration would cease.

If the above is true, we can readily understand how necessary oxygen is to the tissues and why it is impossible to establish anaesthesia with nitrous oxide alone. Nitrous oxide is quickly taken up by the plasma of the blood and soon crowds out or displaces the oxygen in the haemoglobin, so before or, at least, as soon as the nitrous oxide could produce anaesthesia, asphyxiation would take place. Therefore, when we speak of nitrous oxide anaesthesia, it is taken for granted that nitrous oxide and oxygen is meant. Nitrous oxide by itself as an anaesthetic, is a thing of the past.

The balance between the demand for oxygen and the supply may be upset either by increasing the demand or decreasing the supply. This law alone should prove that there cannot be any set standard as to the exact percentage of oxygen necessary to produce good anaesthesia and the response of the patient is the only rule by which to go. Too much oxygen can upset metabolism, the same as too little. When too much oxygen is taken into the tissues, the carbon dioxide content of the blood is diminished and it is the presence of carbon dioxide that influences the haemoglobin to part with its oxygen to the cells. Carbon dioxide

is also a stimulant to the respiratory centre which is one of the factors of respiration. It has, in addition, a small percentage of anaesthetizing properties of its own. Therefore, we might add that nitrous oxide and oxygen anaesthesia is not complete without carbon dioxide in case it is needed.

#### ADMINISTRATION

The administration of an anaesthetic depends upon the preparation of the patient both mentally and physically and too much stress cannot be put upon having a patient in a favourable frame of mind before starting the anaesthetic. Some anaesthetists are more clever at this than others. It is not done by so many words but by a psychological or hypnotic influence which instils confidence into the patient. Of course, no man can hope to accomplish this unless he has implicit confidence in himself.

Let us assume that a patient has been properly prepared and has just entered the operating room and it is understood that she is to have gas anaesthesia. Up to this time, the dentist and patient have never seen each other. After she is seated in the chair, a few general remarks are passed. For an average case, I do not think that a medical examination, a family and medical history are necessary. I am a great believer in the oft repeated fact that, if a patient is well enough to come to the office, she is well enough to leave it. Too much delving into the past at this time only arouses suspicion in the patient. It is entirely different with hospital cases. There, the patients are sick, the operation might only be as a last resort and the chances of recovery might be doubtful. "No stone must be left unturned" that might aid the anaesthetic or operation.

Some patients seem nervous that you would dare to put them under an anaesthetic without an examination. To these

patients, I think it is a good plan to explain that with this particular anaesthetic, no examination is necessary; but it might be good psychology to take the pulse (which doesn't mean anything), and say, "You are fine." On the other hand, if we doubt the advisability of gas, the examination cannot be too rigid and consultation with the patient's physician is definitely indicated. If it does nothing else but establish a friendly contact between the dentist and physician, we are well repaid for this courtesy. The dentist, in a casual way, asks the patient if she has ever had gas before. The answer might be yes or no. From such a reply, we have not learned very much, but if the answer is, "Yes and I like it" or "Yes and I hate it," we have learned how to further approach our patient. In reply to, "Yes and I like it," we might say nothing more or might add there was nothing unpleasant about it. To the second reply, we might register surprise and inquire what was wrong and fit our conversation accordingly, but never argue. No doubt this patient is nervous, highly strung or perhaps neurotic; maybe she did not have a pleasant experience the last time she took gas. At this point, I think it advisable to explain any special merit you think your technique might have.

For several years we have made it a feature not to cover the mouth, under any circumstances, during the first stage of anaesthesia, and rarely do we cover it at all. We have found it necessary. We tell a nervous patient that the appliance just goes over the nose, and emphasize the fact that we do not cover the mouth, and say, "You will find nothing objectionable about the anaesthetic; you see, by not covering the mouth, you will not get any smothering sensation; we promise you that we shall start off very slowly." At the same time, we are adjusting the nose piece, but so far we have not given any instructions about breathing, etc. The

exhaling valve is open, the mouth is not covered, there can be no unpleasant sensation outside of fear or excitement. The pressure is gradually increased up to atmospheric pressure. If there is not any obstruction in the nose, it is the natural thing for the patient to breathe normally, through the nose, under atmospheric pressure. It is because the mouth is covered that patients feel they are going to smother and try to get a breath as best they can. In my opinion, nothing upsets the breathing as much as covering the mouth or face. I can truthfully say that many patients remark how much nicer the anaesthetic seemed because the mouth was not covered.

The patient is carefully watched from the first inhalation and if the expression is pleasant, and no uneasiness or movement of hands or feet, nothing is said to the patient, other than, perhaps, a word of encouragement, such as, "You are taking the gas nicely," or, "That is fine."

If the patient is nervous and the induction period is longer than it should be, you might say in a clear, distinct, yet kind voice, "Take a long breath through your nose." If the hands are reaching out for something, never try to hold them but say, "Put your hands on your lap or interlace your fingers," or to a man, you might say, "Cross your knees." It is more than likely some of my readers have said by now, "That is nothing new. I have said those things for years." The point I wish to bring out is, that to say these things before the anaesthetic is started does not always help because the patients will



adjust themselves when we start the anaesthetic, but if we wait until consciousness is lost and the patient is subconscious, a suggestion then acts like a hypnotic suggestion, and is more likely to be carried out. I have not found this procedure to be of much use with children. Why? I do not know and would be glad of any comment on it.

When the patient is in a state of semi- or subconsciousness, she will usually obey a command and not know it. She could not get up and walk but she has the power to move her muscles. She cannot reason but will obey the command of reason; she cannot talk intelligently, but can hear intelligently. This is a very important stage of anaesthesia to conduct and requires skill and tact. The patient's mind is wandering, one thought leads to another, nothing makes sense. Any noise which did not exist before starting the anaesthetic, such as a telephone ringing, a door closing or an instrument falling, tends to further upset the patient. A few comforting words or a few suggestions will often crowd out any weird thoughts or hallucinations the patient might have and she will relax and settle down. If

allowed to go unchecked, she might grow worse and become obstreperous, making the anaesthetic very difficult. Never hold or restrain the patient if it can be avoided.

At this present age with the use of nembutal for premedication, obstreperous patients are cut down to a very low percentage, but, nevertheless, a few types are difficult to manage in spite of premedication.

Nothing has been said in this paper about the percentage of gases to use. I feel that no definite percentage can be determined nor definite time given to establish anaesthesia. Man is something more than a machine, he is the victim of birth, environment and habit. He cannot be classed as a mathematical equation, like two plus two equals four, nor can he be anaesthetized by any given percentage of gases on the stroke of the minute. There are many gradations between the placid, susceptible type and the neurotic, non-susceptible type of patient. I can see no advantage in giving oxygen in the first stage of anaesthesia or in flushing the patient with oxygen after the operation is over unless it is indicated by the condition of the patient. In each case it only adds to the excitability.

Different men use different techniques. Use the one that gives the best results. Our technique for the average patient is to start the anaesthetic with straight nitrous oxide under little pressure and gradually increase the pressure up to, what we think is, a little greater than atmospheric. The oxygen is not added until we see the first sign of surgical anaesthesia. I find it difficult to explain these signs in words, other than, it is at the time the breathing first takes on that enforced, quickened, machine-like action. For the benefit of those not experienced with anaesthesia, the oxygen should be

added sooner and, in order that I will not be misunderstood, there are patients who might require oxygen from the first and it sometimes has to be added up to as high as 15 to 20% or 25%. Let me say this to young men using nitrous oxide and oxygen. If you like this anaesthetic, learn all you can about it from outside sources and from the reactions of your own patients. The pleasure of achievement will be great. If you don't feel that you are at ease giving nitrous oxide and oxygen, leave it alone.

#### CONCLUSIONS

In conclusion, friends or relatives should not be allowed in the operating room. This rule, of course, does not apply to doctors or qualified nurses and I think there should be a further exception. A very sensible parent with a nervous child might be allowed to stay until the anaesthetic is started. Usually, sensible parents, who have made a study of psychology in managing their children, are the ones who do not expect to go into the operating room but, if they are invited, I think both they and the child appreciate it very much. The parents, who have no conception of how to manage their child, usually have little conception of how to manage themselves. They are the ones who force their way into the operating room with an air of antagonism. They not only upset the routine of the office but perhaps use up the dentist's and nurse's energy and cheerfulness that should be expended on patients who are worth while. We are upholding the dignity of our office and do the parent a favour if we insist on him or her conforming to our rules.

REFERENCES—Halliburton's Physiology.  
American Year Book of Anaesthesia.



# How Do You Treat Vincent's Infection?

by D. P. Mowry, D.D.S., Montreal, Quebec.

(One of the symposium papers presented at the Montreal Dental Club's Twelfth Annual Fall Clinic.)

COMMONLY known as "trench mouth" Vincent's infection is a specific infection caused by definite and well-known types of micro-organisms which are transferable from one person to another. These germs are the fusiform bacilli and spirochetæ, and the disease will respond to any treatment directed against these micro-organisms. Acute ulcerations extending beyond the gingiva proper are its classical symptoms together with a characteristic odour and a foul taste which the patient finds most offensive especially in the morning.

The gingival tissue shows a marked tendency to necrosis (sloughing), a tendency that is never observed in pyorrhætic conditions. Furthermore, Vincent's infection is decidedly painful; whereas pyorrhœa is never accompanied by pain except in case of the rare lateral abscesses.

## TREATMENT—1ST APPOINTMENT

Chromic Acid—8%—Apply with cotton swabs.

Hydrogen Peroxide—Apply with cotton swabs.

Tinct. Metaphen 1:200—General purpose antiseptic.

Sodium Perborate blown into interdental spaces.

Clean crowns of teeth with hand instruments.

Prescription for tooth powder — Merritt's:

|                               |           |
|-------------------------------|-----------|
| Sodium perborate.....         | 9 drams   |
| Calcium Carbonate precip..... | 3 drams   |
| Pulverized castile soap.....  | 45 grains |
| Saccharin.....                | 2 grains  |

Oil of wintergreen.....15 drops

Oil of peppermint.....1½ drops

Sig: Tooth Powder—Use freely two or three times daily.

## 2ND AND 3RD APPOINTMENTS

Repeat above—plus

Phenol interproximally followed by alcohol.

Begin removal of tartar without injury to gingiva.

## FOLLOWING APPOINTMENTS

Repeat above and proceed with prophylaxis.

In conclusion, the successful treatment of Vincent's infection consists in the restoration of a healthy stratified squamous epithelium growing upon a healthy connective tissue—in other words—it is not enough to destroy the micro-organisms—the prophylaxis must be so thorough that every square mm. of gingival tissue must be provided with normal circulation thus insuring normal cell growth to the end that good tissue tone prevails everywhere.

"In general terms the streptococcus must have a necrotic nidus in which to grow in the tissues; otherwise it provokes an acute reaction or is immediately destroyed."

## REFERENCES

Histopathology of the Teeth and Their Surrounding Structures — Rudolf Kronfeld, M.D.

Periodontal Diseases—Diagnosis and Treatment—Arthur H. Merritt, D.D.S., F.A.C.D., F.A.A.P.

Distribution of Oral Streptococci in the Tissues—Dr. E. Wilfred Fish, B.D.J.—Sept. 15, 1936.

# Report of the Committee on Dental Education of the Canadian Dental Association

(Presented at the Delegates' Meeting, October, 1936.)

I REALIZE that a report of this nature should reflect the views of the members of the committee rather than those of the chairman, and with this thought in view I shall make an attempt in that direction.

An early effort toward this end took the form of a questionnaire, which was sent to each member of this committee, with the hope that it might elicit valuable information and be the means of accomplishing something of usefulness to this association. To some extent my hopes were realized and in a few cases the co-operation was all that could be desired. Amongst those few I am pleased to acknowledge the encouragement given by your secretary, through correspondence, of a very helpful nature. He and some of the members of the committee seemed to look upon this work with laudable seriousness; but if I am to judge by the silence of others, I fear this interest was not shared by all. If I am mistaken, I shall be only too glad to receive proof of my error. At the same time I hope that no one either on this committee or elsewhere thinks that such an essential part of our professional affairs should be passed over lightly.

I do not wish to encroach upon your valuable time by giving a lengthy report on the results of these questionnaires, but I should like to give you a resumé of the answers which I received, and perhaps in some instances I may go so far as to enter into a slight discussion of details.

With the latter thought in view I will quote the first question—"Who should receive dental education?" This was invariably accepted as referring only to

students of dental schools, whereas it was intended to apply also to the dissemination of such knowledge among the laity, the graduates of medicine and dentistry, and many others including those whom we call teachers. While I agree with much that was said concerning the careful selection of dental students, we must not stop there. Much has been learned through study, research and experience, and I feel that we would become lopsided if we did not pass along to others knowledge of a helpful nature. The medical and dental doctors have been well served with much valuable educational matter, and I would especially mention the work of the dental magazines. I feel I should compliment this association on its decision to issue such a worthy publication as "The Journal of the Canadian Dental Association." There could however, I think, be more done by such periodicals toward lending incentive to those who are capable of spreading the good tidings of preventive dentistry.

I would also venture the opinion that *teachers* should be taught. I am not alone in this opinion. There has been for some time a growing self-consciousness among dental teachers that often those who guide the struggling undergraduate in dentistry are not as well prepared for their work as they should be. The same may be said of our public school teachers as far as this sort of education is concerned. Teachers everywhere have great opportunities of passing along these lines. But there is evidence in many quarters that the material placed in their hands has been very meagre and always inadequate.

According to the answers received the

members of the committee are not very enthusiastic concerning research in dental schools as now carried on, nor are they much in favour of making practical applications of the findings. The reason for this opinion is because they feel there is a lack of conclusiveness and a failure of agreement among research workers. While the schools may not have accomplished wonders, that is generally acknowledged to be due to shortage of funds and through lack of appreciation of this work on the part of those capable of rendering financial support. There has been, however, in many cases, valuable work done and much has been accomplished that might be of inestimable value if presented to the public in the right way. Members of the profession have for many years been looking into the reasons for the differences in susceptibility to caries between certain natural races and our own or similar peoples. These reasons have been abundantly established and remedies have been found. Would it not be well to let these facts be known?

Again speaking for those members of the committee heard from, there seems to be quite a reasonable uniformity of opinion on certain educational matters such as the following:

(1) That the Governments should bear a greater share of the expense and take a larger measure of responsibility in the dissemination of knowledge such as referred to above.

(2) That instruction in children's dentistry should receive more consideration in our dental schools.

(3) That preventive dentistry is not sufficiently stressed in these institutions, and that it should be taught in the public schools.

(4) That the standard of admission to the dental schools is satisfactory, but that there should be some more adequate means of selecting students as to their fitness for the calling.

(5) That research is being left too much to the individual, with the result that many are undertaking it who are not well equipped; whereas it should be more the function of the dental educational institutions. The chairman however feels that we should do or say nothing to discourage individual effort, for we must acknowledge the vast amount of advancement which has been made through the efforts of men who "were toiling upward through the night."

(6) That many opportunities for advancement educationally are not being taken advantage of at our conventions in this country due to lack of the proper arrangement of programs. Various opinions were advanced—one that there were too many clinics, one that the younger men were not encouraged to demonstrate, another that the social end has been carried too far. Would it be pertinent to suggest that "head-liners" have been given too much time and clinics have been rushed through with too much speed, and that the practice of putting on several at the same time, should be avoided?

(7) That generally dentists in Canada are not developing as they should as speakers and clinicians at our conventions, and that this is a matter that should be looked into with a view to discovering and correcting the cause.

(8) That "refresher courses" for practitioners are desirable, and should be given or sponsored by the dental schools.

On such questions as the awarding of prizes, the development of specialists, the efficiency of professional schools, the training of dental hygienists and dental mechanics, there were various opinions and some disagreements.

The members of the committee are widely separated—being located in all but one province. This however has its advantages, since by this means conditions generally are more readily learned.

The disadvantages are obvious and many of them unavoidable since it is not feasible to hold meetings. Some of the drawbacks, however, might be overcome by including in its membership more men associated with the dental schools. It would appear that this being a committee on education, that all the dental schools should be represented. There would seem then to be a better chance of keeping in

touch with educational affairs.

This report no doubt leaves much to be desired, but be assured that wherein there may have been failure, the chairman takes upon himself a very large share of the blame.

Faithfully submitted,

(Sgd.) H. E. BULYEA,

*Chairman, Committee on  
Dental Education.*

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## Report of Committee on Liability Insurance of the Canadian Dental Association

*(Presented at the Delegates' Meeting, October, 1936.)*

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I HAVE the honour to submit the following report on Liability Insurance.

The chairman has communicated with the representatives of the various provinces.

At present Ontario is the only province which has a protective association for its members.

Manitoba has arranged for a special liability policy approved by its legal advisor and available to its members at a special rate of \$12.00 per year. The regular tariff rate is \$15.00. The company has the right to decline undesirable

risks. A copy of the policy is attached.

The chairman is advised that if all the provinces desired to make this available to its members a further reduction in cost would no doubt be obtained.

Under present conditions, the difficulty of investment, etc., the above seems to the chairman to be the best solution of the problem.

Respectfully submitted,

(Sgd.) KENNETH M. JOHNSON,

*Chairman of Committee.  
Liability Insurance.*

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### School Dentistry

*There is a proverb which says, "Half a loaf is better than no bread". That is true of many things besides hunger, but it is not true of dental treatment. Let me explain. Suppose a school is of such a size that two whole-time dentists can completely cope with the work and keep the children always dentally fit. You decide that you cannot afford two dentists and employ one. If you think you are getting half the value you are under a delusion. If the one dentist treats half the children and entirely neglects the rest, then in a sense you are, but if he attempts to do his best for the whole of the school, then you are not getting half the value of two dentists, but probably not more than a quarter or a third. It is sometimes better to grasp the nettle than to palter with it. — Sir Norman Bennett, M.B., B.Ch. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., L.D.S. Eng.*



# American Association of Dental Editors

*Proceedings of the Sixth Annual Meeting, San Francisco, California, July 11, 1936.*

Compiled by GRACE ROGERS SPALDING, D.D.S., Editor

**R**EPRESENTATIVES of twenty-two (22) member publications attended the Sixth Annual Meeting of the American Association of Dental Editors. The following dental publications were represented: Angle Orthodontist; *Bulletins* of the Colorado State Dental Association, Kings County (N.Y.) Dental Society, Pacific Coast Society of Orthodontists, Second District (N.Y.) Dental Society; Contact Point; Dental Assistant; Dental News; Harvard Dental Record; *Journals* of the American College of Dentists, American Dental Association, Arkansas State Dental Association, California State Dental Association, Dental Research, Kansas State Dental Association, Michigan State Dental Association, Missouri State Dental Association, Oklahoma State Dental Association, Periodontology, and Southern California State Dental Association; New York Journal of Dentistry; Proceedings of the American Association of Dental Schools.

The Executive Committee reported through its chairman, O. W. Brandhorst, that by means of correspondence it had acted favourably upon—1. The establishment of a committee on Dental Student Publications. 2. Remission of dues of Dental Student Publication members. 3. Amendment of the By-Laws to provide for four classes of memberships, viz., Publication, Individual, Associate, and Honorary. 4. A membership roster with By-Laws to be printed and copies distributed, as soon as the list of current memberships can be sufficiently revised. 5. Approval of applications for membership as per list to be submitted. Approval of the above actions was requested by the

chairman of the committee and granted by the Association.

Dr. C. W. Koch, chairman of the Committee on Membership, presented applications for 17 Publication, 52 Individual, and 4 Associate Memberships. These were all elected to membership, and added to the Roster of the Association resulting in the satisfactory number of 73 Publication members, 143 Individual members and 4 Associate members.

The Report of the Committee on Advertising, C. W. Freeman, chairman, was presented by the secretary together with a proposal by Messrs. West and Son for the establishment of a Central Advertising Soliciting Bureau. The proposal was accepted and the Executive Committee empowered to act. (This has since resulted in the establishment of the bureau of *Associated Dental Publications*.)

The Committee on Co-operation, U. G. Rickert, chairman, reported that a number of articles, principally on dentistry for children, had been distributed to the members during the year. The committee offered suggestions for increasing the income of non-proprietary dental journals so that they would have more available space for the publication of really worthwhile articles which it was claimed were readily obtainable from authorities in special fields of dentistry. To delay activity along these lines is in the opinion of the committee "impeding dental progress." It was recommended that a Committee on Co-operation be continued not only to syndicate valuable articles as originally planned, but to co-operate with other committees aiming at the improve-

ment of dental journalism.

The Report of the Committee on Current Dental Literature, T. F. McBride, chairman, read by Reuben L. Blake, of San Francisco, represented the result of an extensive study and careful observation. A plea was made by the committee for greater liberalism in editorials and greater consideration for minority views. It was noted in the Report that there had been a distinct advancement in realizing and assuming editorial responsibility. The status of dental periodicals as of Nov. 1, 1935 (Commission on Journalism), was a total of 124 publications, of which 105 were non-proprietary, 18 proprietary, and 1 unclassified. (The Dental Cosmos has recently changed its status from proprietary to non-proprietary and is now owned and published by the American Dental Association.)

While the general tone textually was considered increasingly better, with more careful selections being practised and scientific aspects also improved, attention was called to a certain dullness with too frequent rehashing of old material, with too little infusion of new ideas. It was

recommended that current dental news events, if syndicated, be edited to conform to the type of the periodical in which they are to be published. As to advertising policy the committee recommended the wholehearted support of the ideals for which the Committee on Dental Therapeutics was founded, and to set up as standards for the acceptance of advertisements, "truth in statement," "moderation in claims," "reputation," "integrity," "dignity," and "good taste." Undergraduate dental journalism should be fostered and stimulated by the Association of Dental Editors as one of its responsibilities. The hopefully changing attitude of the profession, manufacturers and advertisers in support of the ideals of professionally owned dental journalism, was commented upon.

Before adjourning the following officers were elected for the ensuing year: President, C. N. Johnson, Chicago; vice-president, Walter Hyde, Minneapolis; secretary, O. W. Brandhorst, St. Louis; treasurer, O. W. Brandhorst, St. Louis; editor, Grace Rogers Spalding, Birmingham, Michigan.

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### *Ontario Dental Association*

*The 70th Annual Convention of the Ontario Dental Association will be held at the Royal York Hotel, Toronto, Ontario, May 17-19, 1937. Dentists from the United States and from parts of Canada outside of Ontario will be welcomed as guests.*

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### *Western Canada Dental Society*

*The next Convention of the Western Canada Dental Society will be held in Saskatoon, Saskatchewan, May 31-June 2.*

*The meetings will be held in the beautiful Bessborough Hotel and the program committee is hard at work to make this Convention of exceptional interest. Dr. C. N. Johnson, of Chicago, and Dr. James Prime, of Omaha, Nebraska, have already consented to be present.*

# The Deterrents to Adequate Health Care

by PAUL F. O'BRIEN, D.D.S., St. Louis, Mo.  
(Condensed from *Dental Cosmos*, November, 1936.)

IT IS proclaimed from many sources today that, "Adequate health care must be provided for the people; they cannot buy it themselves; something else must be done!"

The mistake in assuming that the need and the demand for service are equivalent, must be corrected. The need, on the one hand, is practically limitless, while the demand, on the other, is indeed definitely limited.

Man's inherent nature practically compels him to want a beautiful home, luxurious furniture, fashionable clothing, the convenience of electric equipment, a new motor car with radio attached, membership in a country club, and the myriad of ultra-modern services, commodities and experiences which seemingly have become indispensable to modern life and reputation. Desire for pleasure and comfort is natural and therefore universal. Everybody inherently wants everything that is delectable to the special senses. That the degree of fulfilment is controlled by the possession or lack of money (or credit) is accepted as a matter of fact. Thus the conclusion prevails that failure to buy exposes an inability to pay. A distressing mistake has been superficially made, however, in classifying unpleasant and unpopular health care in a category with the irresistible and popular commodities. As a consequence, since it is evident that health care is bought with great reluctance, it has been fallaciously concluded that the people are defensibly unable to finance such care. Co-relatively, this conclusion implies that adequate health care would be bought if the people possessed sufficient money—an inference which subscribes to the fallacy

that mere possession of money endows the possessor with judicious discrimination in its use.

No, it is not a defensible lack of money nor a lack of scholastic training, but the tendencies arising from an innate confused sense of the moral, physical and financial values which are predominantly responsible for the public's negative attitude toward health care.

Health care is often sought only as a last resort. That it is deferred, regardless of financial status, scholastic attainment or occupation, until pain, impaired function, loss in personal appearance or general disability becomes imminent, or, more often, actually occurs, is obvious.

The efficacy of modern anaesthesia has almost reduced the fear of pain concurrent to treatment to an excuse rather than a cause for neglect, and to-day this fear is usually nought but the natural aversion to be made uncomfortable.

Oh yes, inability to finance health care is a powerful motive for avoiding such care, but this inability, in an overwhelming number of instances, is indefensibly due to the promiscuous use of income. To be sure an individual in the \$1,000 bracket cannot satisfy his innumerable whims, desires and vanities and also finance adequate care (assuming, of course, that he wants such care), nor can the individual in the \$5,000 or \$10,000 bracket. Just what income would prove sufficient to accomplish this financial miracle depends upon one's self-restraint in the matter of whims, desires and vanities.

Practitioners will attest that those who pay for health care promptly, cheerfully and appreciatively are in the minority,

which is indeed illustrative of the general public's evaluation of health care.

It is obvious to the careful observer that there is a tendency, to-day, for the average individual to budget his income in favour of that which, in the specific instances, are extra-essentials, and then quibble and stint over the basic necessities.

Another contributory motive is a reluctance to surrender necessary time. The pressure of work or business and the exaction of complex interests and diversified activities "limits one's time frightfully." What of the woman who devotes several hours weekly to beauty improvement, yet "just can't find time to have those infected teeth extracted"? It is often overlooked that the more important, valuable or beloved the individual, the more reason that that life and health should be safeguarded and sustained.

Correcting a confused sense of values, which implies encouraging the judicious selection of services, commodities and experiences, eliminating the tendency to follow a line of least resistance, building constructive character qualities, dispelling the fear of pain and aversion to be made uncomfortable, inducing one to surrender valuable time, uprooting suspicion and combatting its cause, placating disappointed patients and eradicating indigency, these are the problems involving, not money primarily, but character, and almost entails a reformation of human nature, and also presents a tremendous challenge compared to which financial provision becomes trivial and secondary.

It is indeed unfortunate that a defensible inpecuniosity is not the major deterrent to adequate care. The work of the Medical-Dental Service Bureau has successfully demonstrated that it is a relatively simple matter to devise a practical financing plan. That this Bureau has not been more enthusiastically accepted, is mute evidence that

the public is but mildly interested in financed service. A nation that expects to air-condition every home, church, theatre, hotel, office building and factory during the forthcoming twenty-five years, and a nation that has spent \$40,000,000 during the past year for dog food, could not be at a loss to finance health care once that care became inherently and universally desired. No, the problem is not that simple; the solution is beyond the power of money; it cannot be bought!

Forcing a redistribution of wealth, establishing an economic Utopia, adopting socialism (or any other "ism"), enacting social security legislation, embracing the group, panel, insurance or financed plans of service, all may possess some merit in themselves and may work to advantage in isolated instances, but will be futile and only a gesture in the promotion of genuine mass health consciousness.

Neither health service at cost nor health service gratis can improve human attitude or behaviour nor evoke a true health perspective. A reduction of twenty, forty or eighty per cent. in medical fees would but indicate that such service had decreased in value, had become less needed, less desirable, more unpleasant, and more obnoxious. Changing socioeconomic precepts and practices to conform to the present level of human weakness would but retard constructive character development and also arrest all true progress and therefore defeat the purpose of the change. Therein lies a key. The improvident, the luxury-bent, and the incompetent have been over-pampered, and have learned only too well that in case of emergency somewhere, somehow, somebody will provide the basic essentials of life, including, of course, health care, should the need for that care become inescapable. If personal welfare were more definitely one's own personal responsibility throughout, perhaps the law



of self-preservation would excite the development of a more discerning sense of values and give those tendencies which are conducive to *the more abundant life* a chance to control human behaviour.

It is undeniably an evasion of fundamentals and inconsistent to attack a socio-economic order because the people lack self-discipline; because they humanly want individual freedom in choice and action with a minimum of individual responsibility; and, as one result, succumb to the motives which prompt them to spurn health care. It is equally inconsistent and impractical to force a service on to a people who, by their nature, are unreceptive to that service. Popular demand and desire for the service must precede compulsory legislation, if such legislation is to be successfully enforced.

From many sources to-day radical and superficial changes are advocated. To strike at the super-structures of society in an effort to build public health consciousness is as ridiculous and futile as painting a house to strengthen the foundation; as profitless as levelling an entire orchard to rid one tree of the blight. If changes must be made, at least they should be made intelligently; they should strike at fundamentals; they should strike at the source, at the unit of society, at the individual. Changes, then, should be made in educational objectives, precepts and practices. Educational effort should be directed toward the left of the presumption that the world owes every-

body a living; toward the left of mass scholastic attainment; toward the left of pretentious standards and false values, and straight toward the heart of the mechanics and art of practical, intelligent and self-disciplined everyday living.

Insofar as dental service is involved, the dental profession occupies an authoritative and commanding position from which to assume the leadership in disseminating the truth. Will it accept the privilege and opportunity before the social experimenter, or perhaps the insurance company selling dental service, joins the dentifrice manufacturer in broadcasting ambiguous superficialities? The dental profession could render a distinct service to humanity, as well as to itself, in boldly and persistently speaking the truth regarding all the accepted facts pertaining to oral health through the medium of the radio, newspaper and magazine, under the direction of a salaried, lay publicity expert.

Since, without question, no service, commodity or experience remotely approaches health care in its vital and basic importance to the daily welfare of humanity, it is the profession's duty, if it wishes to fulfil its heritage, to awaken the public to recognition. The truth alone is not self-sufficient; it must be supplemented with recognition, understanding, belief and action by the people and also by public officials, if the people and the health professions are to be saved from another *noble experiment*.

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### *Toxic Absorption*

*The amount of toxic absorption from the gum margins in a case of definite pyorrhea is much greater than that from a few apical granulomata. The toxic products from pyorrhea pockets can be discharged into the mouth, but in fact they are also absorbed into the tissues over a very wide area, much wider than the apex of a tooth. This is immediately obvious if one looks at a section of jaw with a few pyorrhetic teeth in situ and an apical abscess or two.—E. Wilfred Fish, M.D., Manc., D.D.Sc., Melb., D.Sc., London.*

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM SASKATCHEWAN:

In restoring both upper centrals by use of a fixed bridge, do you consider that the laterals form sufficiently strong abutments or should I continue the bridge to the cuspids using four abutments instead of two?—*James P. Whyte, Swift Current.*

## REPLY FROM NOVA SCOTIA:

From quite a protracted clinical experience, I feel that no fixed rule can be applied in every case, but on the contrary that it is a question which must be decided by the conditions presented in each individual case.

In forming an opinion, one must consider the inherent properties of the abutment teeth, viz., their size, shape, soundness, position and direction in the arch, also the length, direction and position of the roots, as well as the condition of the surrounding soft tissues, and the character of the overlying hard structures. Other considerations are, the type of bite with which the bridge will articulate, and the curve of the arch to which the pontics must conform.

It will be advisable, also, to observe in a general way the type of mandible, and muscles which govern its actions.

If all conditions are favourable, and the lateral incisors are sufficiently thick, labio-lingually, to permit correctly prepared grooves into sound dentine, I have reason to believe that they, alone, will carry the pontics and give good service.

On the other hand, with any of the

above conditions unfavourable, employ the additional strength, undoubtedly gained by using the cuspids as well.

One might lay down as an axiom, that it is always wise to employ adequate abutment strength, thereby providing additional years of comfort and usefulness for the bridge.—*Warren C. Oxner, Halifax.*

## REPLY FROM BRITISH COLUMBIA:

In reply to your request for an answer to the query from Saskatchewan, I feel that sufficient data has not been given to give a definite reply so will, therefore, limit the application to giving advice.

Providing the laterals are vital, the occlusion normal and the investing membranes healthy, I would not consider it good practice to involve the cuspids as abutments. The laterals should be sufficiently strong for many years.—*Emery Jones, New Westminster.*

## REPLY FROM QUEBEC:

Too many factors may be involved here to make a specific reply to this question.

Whether the laterals form sufficiently strong abutments to carry two centrals depends largely upon the nature of the bite, upon the condition of the bony attachment of the laterals (examined radiographically) and also upon the anatomical formation of the laterals themselves.

If the above factors are all found to be

favourable I would say that the laterals form sufficiently strong abutments.

If doubt arises as to the sufficiency of anchorage, then remove all possibility of doubt by using double abutments to get additional and adequate anchorage.—

*John S. Common, Montreal.*

#### REPLY FROM ONTARIO:

To use only two abutments in supplying upper centrals in the average case is to court trouble, but the final decision whether to use two or four abutments would depend upon the condition of the surrounding tissues soft and osseous, the size and form of the abutment teeth and the amount of stress to which they would be subjected. In an end to end bite with large strong laterals, it might be permissible to use the laterals only, especially where the financial responsibility is not a serious consideration and where it is clearly understood by the patient that it may be more or less of a temporary expedient and that it must be under the constant supervision of the operator. Again with slight over-bite and where rests could be used on the mesial lingual of the cuspids supporting the bridge against any anterior displacement, in the opinion of the writer this would be considered good practice.

Aside from these exceptions keep in mind constantly that the main object is to retain the laterals in health and in function and that in the vast majority of cases this can be accomplished by using four abutments.—*O. S. Clappison, Toronto.*

#### REPLY FROM ONTARIO:

If this question refers to a specific case it is like asking "How far is up?" but if it refers to a general principle it is rather a good question because it will bring forth a review of some general fixed bridge principles.

The first requisite in successful fixed bridgework is the consideration of occlusion. Stillman, McCall, Box and others have shown conclusively the effect of traumatic occlusion in bringing about periodontal disease in single teeth. It is quite logical then to assume that traumatic occlusion will do still more harm to teeth which are carrying the added burden of bridgework. When we are doing bridgework we should always keep before us this definition of occlusion.

Box defines normal occlusion as physiologic and as that condition in which the system of forces acting on the tooth during occlusion are in a state of equilibrium and do not and cannot change the normal relationship existing between the tooth and its supporting structure. It is not too much to say that the observations of the periodontists have made possible successful fixed bridgework.

The second requisite is a study of the individual teeth to be used as abutments. Determine that the length and thickness of the roots and the amount of bony attachment will safely withstand the stresses to be applied, and that the periodontal attachment should be thin and dense and covering the entire surface of the root.

Dr. A. Alfred Nelson, of Detroit, by clinical and radiographic observations has ascribed various loads to different teeth for the purpose of gauging the functional excursions of restorative appliances. They are as follows: To the first molar, Dr. Nelson places a load or support ratio of 100. It is a pretty generally recognized principle in fixed bridgework that an abutment tooth will support itself plus a like member. Thus since the first molar will support itself plus an equal load, it will therefore support a load of 200. To apply this let us consider the following table of loads or supports. It is a load when it is a pontic and a support when it is an abutment.

TABLE OF LOADS

|                           | Upper | Lower |
|---------------------------|-------|-------|
| Third Molar . . . . .     | 50    | 50    |
| Second Molar . . . . .    | 90    | 90    |
| First Molar . . . . .     | 100   | 100   |
| Second Bicuspid . . . . . | 60    | 70    |
| First Bicuspid . . . . .  | 70    | 60    |
| Cuspid . . . . .          | 80    | 80    |
| Lateral . . . . .         | 40    | 30    |
| Central . . . . .         | 60    | 20    |

In the construction of a fixed bridge, the pontics must not exceed the dead load that the abutments will support. The axiom is that an abutment tooth will support itself plus a like member. Transpose this axiom to read—the abutment will support itself plus an equal load.

To use the above table in fixed bridge-work let us consider a bridge from first bicuspid to second molar.

|                 | Load | Abutment Support             |
|-----------------|------|------------------------------|
| Second Molar    | 90   | Second                       |
| First Molar     | 100  | Molar $90 \times 2 = 180$    |
| Second Bicuspid | 60   | First                        |
| First Bicuspid  | 70   | Bicuspid $70 \times 2 = 140$ |
| Total load      | 320  | Total support 320            |

Let us consider the bridge in question according to these tables.

|               | Load | Abutment Support           |
|---------------|------|----------------------------|
| Lateral       | 40   | Lateral $40 \times 2 = 80$ |
| Central       | 60   | Lateral $40 \times 2 = 80$ |
| Central       | 60   |                            |
| Lateral       | 40   |                            |
| Total load    | 200  | Total support 160          |
| Total support | 160  |                            |
| Overload      | 40   |                            |

In this case we have an overload of 40 so it would be unwise to use the laterals alone as abutments except under the most favourable condition.

A few alternative designs might be submitted for the bridge.

Refer to Figure 1.

1. For abutments use strongest lateral on one end and the weaker lateral plus the cuspid on the other end.

2. For abutments use both laterals and cuspids. This preparation is usually dif-

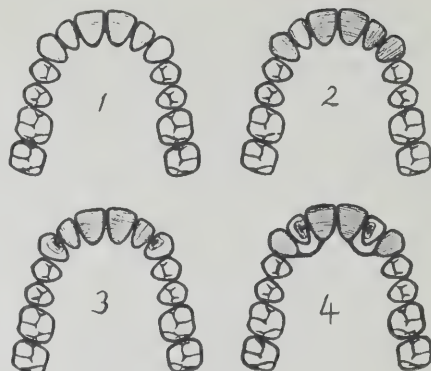


Figure 1.

ficult. It is difficult to parallel all your abutments without the unsightly exposure of gold.

3. For abutments use both laterals with interlocking rests in mesio-lingual inlays in both cuspids.

4. For abutments use both cuspids with rests in mesio-lingual inlays in laterals. The central pontics are attached to the cuspids with 14 gauge round high tensile wire, brought around the lingual of the laterals. It is not wise to use cuspids without rests or some support to the laterals.

In connection with any design if tooth substance has to be ground off the opposing teeth, from a psychological standpoint it is advisable to do all the grinding during the preparation of the abutments. Make your provision for clearance then and not when fitting abutment inlays or finished bridge. If left until then, the patient feels that you have slipped up somewhere and that you are grinding away their good tooth to try to make your piece of work fit. No matter how one tries to explain that it will cause no injury or damage, I feel there is always a doubt left in the patient's mind. Done at the time of your preparations, the patient will invariably not question it.

—Frank Martin, Toronto.



# The Forum

## • SOAP AS A THERAPEUTIC AGENT

IN the Medical Times of July, 1935, Thomas B. Wood, M.D., F.A.C.S., of Brooklyn, N.Y., draws attention to the therapeutic uses of soap. He uses the commercial tincture of saponis viris, or green soap, and this is prescribed so that when used at home it will be a 1:250 dilution. It is used on all types of throat and mouth infections. In cases such as Vincent's infection, the mouth is rinsed every hour.

The following conclusions are given:

Soap is

(1) strongly antiseptic against the pneumococcus, streptococcus, meningococcus, gonococcus, diphtheria bacillus, influenza bacillus, cholera vibrio, *Treponema pallidum*, spirofusiform bacillus of Vincent, micrococcus, and to a less degree the staphylococcus. It compares favourably with many of the recently synthesized chemicals and is a potent factor in preventing the spread of infection.

(2) a detoxifying agent against the virus of diphtheria, tetanus, leprosy, scarlet fever, and poliomyelitis.

(3) dependent for its action upon several physico-chemical properties not found in other antiseptics, namely, (a) its colloidal nature; (b) its saponifying ability; (c) its ability to lower surface tension; (d) its dialysing ability; (e) its detoxifying property; (f) its diffusing ability.

Its antiseptic qualities vary according to (a) the temperature of the solution; (b) the fatty acid radical it contains; (c) the fatty acid saturation state; (d) the absence of foreign substances; (e) the state of dilution of the solution.

## • GENERAL ANAESTHESIA

By John Battersby, M.B., Ch.B., L.D.S.R.C.S., Eng.

IT IS generally recognized that nitrous oxide is the safest general anaesthetic for daily routine in view of the fact that it is the only one with a known antidote—oxygen.

Little or no preparation in the way of fasting is necessary, but gas should not be inhaled immediately after a heavy meal; it is better, however, to have some food in the stomach, as prolonged fasting may increase any liability to fainting. Always have the patient empty the bladder, as otherwise an awkward situation will arise on some occasion.

In my experience nausea and sickness are extremely rare, and are due to the anaesthetic having been given very soon after the patient had partaken of a heavy meal, or to an idiosyncrasy towards nausea as in the biliary temperament, or to blood having been swallowed, or to the patient having been allowed to go in and out of cyanosis.

Gas is not a cardiac depressant, and with an increased percentage of oxygen may be given in heart cases, anaemia, the very old and feeble, and even in patients with swelling in the neck causing some respiratory obstruction.

I have never used any premedication, as I consider it inadvisable and unnecessary. To give any sedative drug previous to administration for dental cases is only introducing something into the picture which may mask the signs of anaesthesia and recovery.

There is one condition which should be carefully considered before administering nitrous oxide and oxygen, and that is high blood pressure. A person with a

high systolic and diastolic blood pressure is in danger of cerebral haemorrhage, and as the blood pressure is raised during induction with nitrous oxide there is a danger of bringing on cerebral haemorrhage prematurely. This has, by the way, occurred after the injection of a local anaesthetic containing adrenalin.

A diastolic of 110 is serious and of 120 extremely dangerous; if the patient is known to have a high blood pressure do *not* give nitrous oxide and oxygen, or a local anaesthetic. If the extractions *must* be done, then chloroform should be administered, as this causes a great fall in blood pressure, and I think this is the only case in which this anaesthetic should be administered today for dental purposes.

I consider it advisable to do all the extractions at one sitting if possible, as, in spite of the possibility of systemic trouble arising from the liberation of toxin, the satisfaction of the patient at having to make only one visit is worth the slight risk.

I always induce anaesthesia in absolute quietness, a Sorbo mat having first been placed in the chair seat to prevent the patient sliding forward. No conversation should take place between the operator, anaesthetist and nurse. A mouth-prop having been inserted, the gas is turned on to 5 mm. pressure as the nose-piece is adapted, and the patient told to breathe in and out through the nose. After four or five breaths, the oxygen is admitted and the mouth covered with the mouth-cover, but this is not always necessary. The mouth is not uncovered until the patient is breathing regularly and quietly. Recovery is rapid and usually quiet. The nose-piece is removed at once, and I wait a few moments before speaking to the patient and never attempt to remove the mouth-prop, if still in situ, until the patient is conscious, else he may think a tooth is being extracted.

To my mind, there is no doubt that the anaesthetic par excellence for the dental surgeon's routine work is gas and oxygen. —*Condensed from paper in Dental Magazine and Oral Topics, December, 1936.*

#### • DIET IN RELATION TO TEETH

By R. Pybus, S.R.N.

WE CANNOT claim that the dietitian has solved the problem of dental caries but most research workers agree that this condition is due to two factors, both of which may be influenced by diet. The one is environment, the other metabolic.

ENVIRONMENT—(i) The trouble may be due to the acid produced round the teeth by the action of bacteria, especially those of the acidophilus or lactic acid group. If so, carbohydrate is at fault, but it is difficult to conceive that any decaying foodstuff might not have a harmful effect.

(ii) Dietetic factors may influence the chemistry of the saliva in a favourable or unfavourable manner. At present this theory is not generally accepted.

METABOLIC—Few authorities deny the bacterial aspect of dental caries but even clean teeth may decay. There is considerable evidence that the resistance of the tooth to infection may be raised from within by a diet containing an abundance of fresh foods, milk and vitamin D. The tooth with perfect structure is least likely to decay.

Lastly, cereals and the refined foods produced by civilization have a disastrous effect when eaten in excess. Perhaps because they crowd out the protective foods; perhaps because they upset the chemistry of the body, or possibly because of their local effect.

While we have much to learn regarding diet in relation to teeth there is no doubt that our theoretical knowledge is far in advance of our practical application. I think many of us would do well to pause in this "hectic" life and con-

sider if we are spending our hard-earned income to purchase health or sickness.—*Conclusions of paper published in British Dental Journal, December 15, 1936.*

#### • BROKEN HYPODERMIC NEEDLES

CASES continue to occur not infrequently in which hypodermic needles break during injection, and cannot be removed without an operation. Even after the piece of needle has been located by the help of x-rays it cannot always be found by the operating surgeon. The patient must always be informed when a needle has broken and a piece of it has been left in the tissues. Careful inquiry into a large number of cases leads to the conclusion that the accident is not usually due to want of care or skill on the part of the surgeon using the needle. Nor have investigations shown that the accident frequently happens from a faulty needle. Two useful suggestions may be made, however. Firstly, that nothing appreciable is gained by using a very fine needle, for it is chiefly these that break, and secondly, as the needle almost always breaks where it enters the body of the syringe, *viz.*, at the hub, the needle should not be inserted into the tissues right up to the hub. If this procedure is adopted and the needle breaks a part of it is left protruding outside the tissues and can quite easily be removed.

An additional precaution of value is to have available a pair of pliers or artery forceps with which to grip the protruding end of the broken needle. In the case of injections for the extraction of teeth, the broken fragment often moves very quickly after fracture, *e.g.*, if the patient swallows, and unless the end can be seized *at once* it may disappear in a few seconds and require a difficult operation for its removal.—*Excerpt from the Solicitors' Report of the London and Counties Medical Protection Society.*

#### • MEN PATRONIZE BEAUTY PARLORS, TOO

AND here for years all of us have been talking about the millions of dollars spent by women in beauty parlors as compared to the rather limited expenditure of the same people on dental care. Comes Antoinette Donnelly of the Chicago "Tribune" who says that the aggregate bill of the male half of the human race runs over \$600,000,000, only a couple of hundred million under the estimated expenditure of women in beauty shops and for cosmetics. The men's expenditure is in barber shops and for shaving accessories, and all of the rest of it. It is said that although the nation's actual barber shop bill has dropped \$250,000,000 in the last ten years, the maximum use of other items to enhance the face and hair has increased 25 per cent. None of these figures take into account the time or money spent in gymnasiums or on hand ball courts. The following table shows the estimated expenditure per year for male aids to pulchritude.

|                                                               |               |
|---------------------------------------------------------------|---------------|
| In barber shops, including shampoos, massages, manicures..... | \$500,000,000 |
| Razors and blades.....                                        | 43,685,000    |
| Shaving soaps, powders, creams...                             | 23,232,000    |
| Hair tonics, lotions.....                                     | 25,875,000    |
| Scalp treatments.....                                         | 8,000,000     |
| Total .....                                                   | \$600,792,000 |

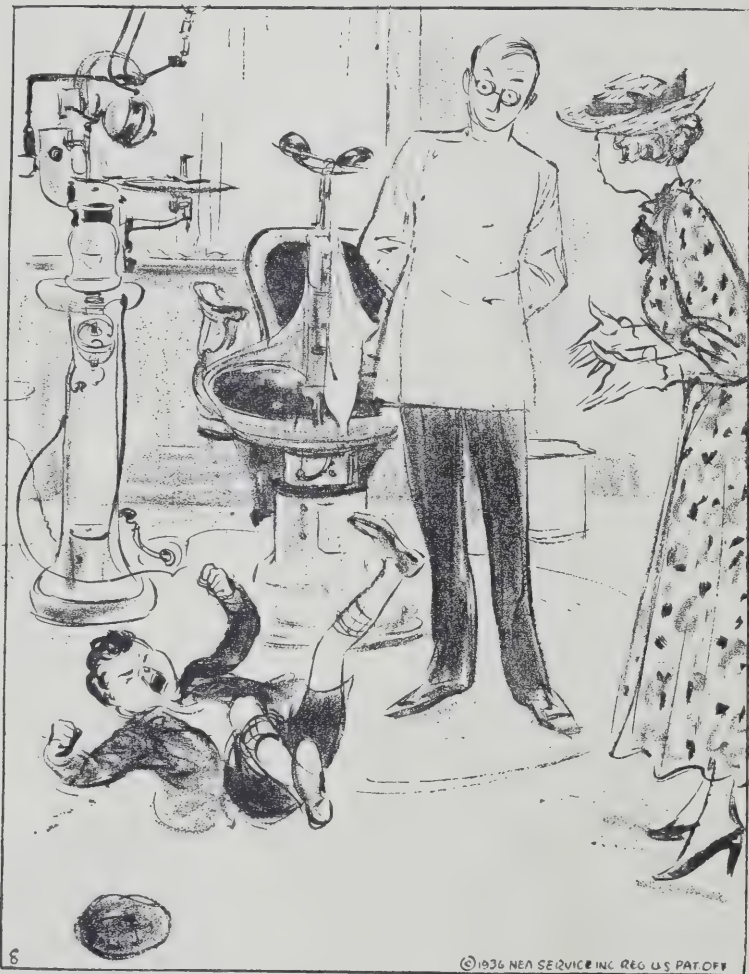
This is computed as about \$16.21 per year per man as compared with the estimated \$22.28 per woman.—*Dental News, June, 1936.*

#### • SOCIAL SECURITY ACT AS IT AFFECTS DENTISTS

LET us see how this applies to the dentist employing one assistant whose salary is \$20.00 per week and who is paid weekly throughout the month. The dentist will on each pay day deduct 1 per cent of the total, or 20 cents, paying the

assistant on each pay day \$19.80 rather than the full \$20.00. This 20-cent deduction is to be accumulated throughout the month of four weeks making a total deduction for that month of 80 cents. This sum is to be matched by the dentist making a total of \$1.60, which is the sum to be remitted to the Collector of Internal Revenue on or before the last

day of the succeeding month. This return is to be made out on form SS-1 and a cheque or money order of the dentist is to be attached and both are then to be sent to the Collector of Internal Revenue, Social Security Division, United States Court House, Chicago.—*Willis J. Bray, secretary. (The Bulletin of the Chicago Dental Society).*



"Don't just stand there, doctor! Win him over."

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PRINCE EDWARD ISLAND



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Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

SASKATCHEWAN



F. C. Harwood, Moose Jaw

NOVA SCOTIA



A. W. Faulkner, Halifax

QUEBEC



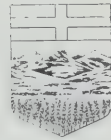
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## The Radio and the Dental Profession

There is always a personal satisfaction in a work well done, a pleasant sensation of having reached or surpassed some previously established record or goal.

To the dental society which wishes to undertake something very worth while, yes, something even intriguing, which wishes a definite objective at which to aim, let me suggest that the possibility of radio broadcasting in the interests of public mouth health offers such a target.

That our people need to be educated along these lines, so that at least a fair proportion of them will place a healthy mouth ahead of the non-essentials of life, no one can dispute. That the profession as a whole has not taken this problem as seriously as it should, also goes without question. That the radio offers one of the very best mediums to this end is a deep conviction in the mind of the writer.

At the C.D.A. House of Delegates' Meeting held in October, I listened with some surprise, not only to how little is being attempted in this regard



throughout Canada but likewise to the unfavourable or non-committal viewpoint of many of our leaders as to the efficacy of the radio for purposes of dental health education.

In Nova Scotia the dental profession is not making use of the radio nor has it done so systematically in the past. Radio addresses have been given sporadically, but not according to any planned program.

In New Brunswick there are no organized health talks being given over the air.

In Quebec a series of thirteen broadcasts of ten minutes each was inaugurated last spring. It was the intention to have these sent forth at 10.30 p.m., on Fridays, over CRCM in French and over CFCF in English, with all Quebec stations hooked up. At the last moment, however, CFCF, which is privately owned, refused to carry out the plan, so only the French broadcast took place. There was no cost to the profession and the messages went out under the auspices of the Minister of Health. New plans are now under way in this connection.

In Ontario the radio is used on rare occasions. Spasmodic efforts have been made to broadcast messages. Public addresses before service clubs, etc., and also in connection with the provincial convention have been broadcast. At present a survey is being conducted in Ontario to acquire facts on the question, "Why does the public not subscribe to adequate dental service?" This survey is being conducted by expert lay investigators, and, when the facts are known, an educational program will no doubt be formulated including radio broadcasting.

In Manitoba, some radio broadcasting has been done in the past in the nature of regular addresses by dentists, the speaker's name not being announced; also there has been a special children's program given by paid entertainers. At present nothing is being done.

In Saskatchewan there have been practically no dental programs sent out over the air.

In Alberta there has been no dental broadcasting for some considerable time. Consideration was given to talks over the radio, sponsored and financed by the Board of Directors of the Alberta Dental Association, but rapidly dwindling finances, due to a long series of prosecutions for illegal and unethical practice, caused this project to be postponed indefinitely.

This is the picture of the situation as it exists throughout most of Canada in January.

I have reports from only a few centres in the United States, but would like to mention what is being done by our neighbours. In Minnesota, the Ladies' Auxiliary of the State Society broadcasts every Monday afternoon for

fifteen minutes. Dr. Wm. O'Brien, a prominent physician in the Department of Pathology of the University, broadcasts every week, devoting one address each month to dentistry, connecting it up with general health. The State Society also does some broadcasting.

The American Dental Association is broadcasting two fifteen-minute periods per week. One of these is given over Station WBBM, Chicago, and as this station is one of the more powerful, the talks cover approximately twelve to fifteen stations surrounding Chicago. The other fifteen-minute period is given over Columbia's Northwest chain which reaches Minnesota, North and South Dakota, Montana, Nebraska, Iowa, and one or two adjacent states. In addition to these two weekly broadcasts, prepared radio copies are furnished to many of the state and component societies. The Chicago Dental Society reports that it finds the local radio stations more than willing to give time to the presentation of dental health material over the air. For several years it has had a minimum of two talks a week—one over WGN and the other over WBBM. In addition to this, Dental Hygiene Division of the Board of Health of Chicago has given one talk a week over WBBM.

This year a different type of program has been adopted which might be classified as follows: (1) exposition type; (2) question and answer—that is, question by the announcer and answer by the dentist; (3) round table discussion type of presentation which has proved to be very popular. This is followed by a question box, answers to specific questions being solicited from the audience and those having the greatest popular interest being answered in the succeeding program. Consideration is also being given to the presentation of a playlet which will be directed to children, a program which will be ready shortly.

In New York, weekly broadcasts are being conducted under the auspices of the Oral Hygiene Committee of Greater New York over WNYC, a city-owned station. A series of broadcasts are also being conducted by Dr. George Wood Clapp. Five years ago, with the approval of the American Dental Association, he began a series of radio programs over station WMCA, New York, telling dentistry's story, as Dr. Clapp says, in words of two syllables, and from a public point of view. He was able to demonstrate the fact that there was an audience that followed the program even when it went over a secondary station. Two years ago an important radio station in Philadelphia was included and the program now goes out over Philadelphia, New York, Boston and Laconia, N.H.

One or two schools with no radio in the rooms wanted the broadcasts in written form as part of the school teaching so an effort was made to supply these by sending the Tuesday broadcasts, which are arranged especially for children. The welcome by schools to the free, printed broadcasts has now reached far outside the radio area. It extends from Maine to California and as far south as Georgia. About 2,500 schoolrooms use the printed broadcasts each week and these reach an audience of not less than 70,000 children. Dr. Clapp states that he has never had requests from Canadian schools.

perhaps because they have not known about the system. In Montana, just south of the border, 36 school districts use the broadcasts, and, as many of these are one-room country schools, the talks are very welcome as teaching material. These broadcasts tell dentistry's story to an audience that does not habitually visit dental offices. The printed broadcasts tell a good deal to patients who visit the office and they form an excellent textbook on "Service Presentation" for study by dentists. Dr. Clapp graciously states that he will gladly co-operate with any Canadian schools that would like to use the material.

Surely this radio service is not needed more in the United States than in Canada. Undoubtedly the Canadian Dental Association should be broadcasting regularly the wonderful story of dentistry over a national chain. If this broadcasting is going to be carried out by asking some tired dentist to write an essay and deliver it over the air, I am not at all interested. It is not worth the effort. No, times have changed, and the dental profession must change with the times. It is of paramount importance that any material going out over the air should be presented in the most interesting manner possible. The message must be clothed in an attractive dress. Entertainment value and humour are essential and these can well be accomplished without injuring the dignity of the dental profession. The co-operation of professional actors and actresses should be sought. Before this article appears in print, the League of Nations Society will probably have broadcast a planned meeting or a series of such meetings full of public interest, in the nature of a public gathering with a chairman, an audience, and with lively questions presented.

I would urge the Canadian dentists to wake up to the fact that education by radio is extremely important to the welfare of the public and of themselves. The door of opportunity stands wide open to those who will enter, and as Carlyle says—"Our grand business is, not to see what lies dimly at a distance, but to do what lies clearly at hand."

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## BOOK REVIEWS

**Dental Surgery and Pathology**—by T. W. Widdowson, L.D.S.R.C.S., England, and E. V. B. Widdowson, L.D.S.R.C.S., England, with special chapters on "Treatment of Irregularities in Position of the Teeth" by L. Russel Marsh, L.D.S.R.C.S., England, "Inflammation and Bacteriology" by Dr. H. A. Lucas and "Dental Sepsis in Relation to the General Health, and Diseases Arising from Reflex Irritation" by John James, L.D.S.R.C.S., England. Third edition, 724 pages, 10 plates and 370 illustrations. Cloth, 35/- plus postage.

Published by John Bale, Sons & Danielsson, Limited, London.

This book is now in its third edition. As stated in the preface, the book constitutes a "combination of the authors' observation and practical experience with a compilation from the standard works in dental surgery."

Chapters deal with such subjects as primary dentition, care of temporary teeth, the permanent dentition, treatment of irregularities in position of the teeth, rare pathological conditions leading to abnormalities in the position of the teeth, inflammation and bacteriology,



dental caries, sterilization, diseases of the dental pulp, treatment and filling of root canals, diseases of the periosteum, fractures of the jaws, affections of the tongue, difficulties, complications, accidents and sequelae of tooth extraction, conditions unfavourable to tooth extraction, local anaesthesia in dental practice and several other chapters on allied subjects.

The authors have compiled a very extensive treatise on this phase of general practice. They

favour the conservative attitude in respect to the devitalization and the treatment of non-vital teeth. The fact that the basis for much of the treatment described is actual practice lends a great deal of weight to the opinions of the authors.

Messrs. Widdowson are to be congratulated on this comprehensive contribution to dentistry.

—Kenneth M. Johnson, *Winnipeg.*

**Toothful Essays**—by Edward Samson, L.D.S.R.C.S. Eng., F.C.S. With the author's original illustrations. Published by John Bale, Sons and Danielsson, Ltd., 83 Great Titchfield Street, W.1, London, England. Pp. 244. Cloth 7s. 6d.

The reviewer has read this book with unusual interest. He has read it aloud to his wife who was sick at the time. The members of the office staff have been vying with one another to see whose good fortune it would be to read it next.

This book is comprised of a series of essays on such subjects as the "Denture Fidget," "White Coat," "The Sunday Crasher," "Nurses," "Isn't Science Wonderful," "The Rinser," etc., which, when illustrated in the author's inimitable way, strike a note of

humour which is delightfully refreshing.

As Sir Norman Bennett in his Foreword states, some of these essays illuminate our own foibles, others relieve our feelings by satirizing the idiosyncrasies of the more trying of our patients, and all of them strike home; and further, that it certainly does us a world of good to see the funny side of the many worries of dental practice.

Underlying this humour, there is a serious meaning. If only our patients could read these essays and profit by them, the life of the dentist would be a much happier one.

Mr. Samson is a man of wide experience, a great scientist and a strong advocate of the necessity for dental research. Do not fail to obtain this book and read it.

*M. H. J.*

## NEWS FROM THE PROVINCES

### NOVA SCOTIA:

#### Felicitations to Dr. C. A. Elliot

An article in the Westwood Hills Press of December 25, 1936, notes the appointment of Dr. C. A. Elliot as president of District 5, Southern California Dental Association. Dr. Elliot is well-known to the older members of the dental profession in Nova Scotia. Upon completion of the first year of his dental course at Dalhousie, his family moved to Toronto to live, Cyril accompanying them, where he transferred to the University of Toronto, graduating from that institution about the year 1921. He immediately opened an office in Halifax where he practised for several years, then removing to

Southern California where he has had a successful career. Although expatriated, he is loyal to his native Province, visiting it as often as opportunity permits. The Journal takes pleasure in offering its felicitations to Dr. Elliot on the acquisition of his recent honour.

#### Rotary and Dentistry

Windsor, Nova Scotia, has a Rotary Club giving attention to a child welfare program. Recently two local dentists, Dr. K. K. Dimock and Dr. C. R. Murphy, extracted 150 teeth without remuneration, while Rotary paid for the supplies. Conservative dentistry is contemplated next, and one business man, J. H.

Bustin, has donated \$100.00 toward the work. Miss Anne Slattery, county health nurse, is in charge of the work.

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**Gifts**

In the last Report of the President of Dalhousie University under the heading "Gifts received during the year," I note the following, "From the Nova Scotia Dental Association for the Dental Library, \$115.00, bringing the total amount received to June 30, 1936, for the library and the prizes in dentistry, to \$2,905.00."

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**Curling**

Congratulations to Dr. Anson D. Hopper on the occasion of his successful curling for the McMullen Cup, an inter-club trophy at the Truro Curling Club. Dr. Hopper skipped his rink to four straight wins.

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**Students' Smoker**

The students of the dental school at Dalhousie held a very enjoyable smoker on the evening of February 5, under the chairmanship of Mr. Egan. Many members of the teaching staff were present on invitation. Dr. W. H. H. Beckwith's address was the hit of the evening as he was at top form. The boys contributed many musical numbers of first-rate excellence. It was an evening of fun and jollity.

**BRITISH COLUMBIA:**

**Vancouver**

"The Relationship of Endocrine Dysfunction to Conditions in the Mouth" was the title of the very interesting and instructive paper which was presented to the Vancouver Dental Society at their last monthly meeting, by Dr. W. N. Kemp, Endocrinologist and Anaesthetist.

The speaker emphasized the close relationship that prevails between the specialties of dentistry and endocrinology. Undoubtedly normal eruption and development of the teeth and normal dental and oral health depends upon normal function of the ductless glands, particularly the pituitary and thyroid and the islands of Langerhans of the pancreas. Dysfunction of the latter, of course, causes diabetes mellitus which is a potent factor in the aetiology of

pyorrhea and other conditions of oral ill-health.

Aside from the constitutional and hereditary factors which affect osseous growth, the development of the bones entering into the formation of the face and oral cavity is under the control of the ductless glands, particularly the pituitary and the thyroid glands. If discrepancy exists in the "timing" and effectiveness of these growth impulses, proper spacing, size, shape, and occlusion of the teeth are impossible, as is also a normally shaped palate. Hence dysfunction of the endocrine glands constitutes one of the important causes of malposition of the teeth and subsequent dental impairment.

The structure and health of the enamel, dentine and pulp of the teeth are directly related to the proper metabolism of the calcium and phosphorus which, in turn, are related to thyroid and parathyroid function and vitamin D supply.

Retardation in eruption of the temporary teeth occurs most commonly in infants with underfunction of the thyroid or pituitary glands or both; probably the pituitary deficiency is the fundamental one in these cases. Hypothyroidism is the chief direct cause for delay in dental development. Usually it is accompanied by a retardation in the formation of all the structures which enter into the formation of the oral cavity, resulting in various types of disproportion between teeth, dental arches and palate. Sometimes the dental retardation in the infant can be traced to maternal thyroid deficiency during prenatal life. The late appearing temporary teeth often fail to give place to the permanent teeth at the proper time; this delay inevitably results in improper spacing, crowding and malocclusion. Timely treatment for the thyroid gland at this time is superior treatment to any orthodontal appliance. In hypopituitary function it is in the permanent teeth where the delay in appearance is most marked.

Disproportion in size and errors in alignment of the teeth is often due to over or under function of the pituitary gland or under function of the thyroid gland. Hyperpituitarism often causes the formation of large square widely spaced teeth with broad upper incisors. Hypopituitarism provides the orthodontist's

chief field of operation since in these cases the jaw is too small to accommodate all the teeth comfortably. These, in consequence, are crowded out of position and overlap each other, especially in the receding lower jaw. The teeth themselves are usually small and infantile in shape with extremely stunted canines with central incisors large and well spaced. In children with hypothyroidism the late arrival of the teeth causes marked disproportion in size. The central incisors remain alone for a long time and, unchecked in their growth by the presence of the adjacent teeth, are given an opportunity to grow abnormally large, so that when the lateral incisors arrive little room is left for them. Malocclusion or failure of the upper and lower teeth to meet evenly may be due to congenital abnormality, to hypothyroidism or pituitary dysfunction.

Dental Caries is definitely related to endocrine under function in many cases. Here hypothyroidism, hyperthyroidism, hypopituitarism and parathyroid dysfunction are the common endocrinopathies involved. In northern latitudes lack of vitamin D (calciferol) is a factor favouring dental caries in the winter months. Mellanby has shown that an excess of cereal in the diet increases the need of vitamin D if dental caries is to be prevented. Generally speaking an average prophylactic dose of 1,000 international units is required by people in northern latitudes during the winter months. Vitamin D probably acts by increasing the permeability of the intestinal mucosae to both phosphorus and calcium and by promoting the disposition of these two essential minerals in their normal depots, the bones. An acid condition of the intestinal tract favours the absorption of calcium while a degree of blood alkalosis favours its disposition in the bone. Accordingly if calcium is prescribed it is good treatment to combine calcium therapy with the simultaneous ingestion of citric acid. Foods such as cheese, milk, cauliflower, dried beans, nuts and figs are rich in calcium. Phosphorus is most plentiful in lean meat, cheese, eggs, whole wheat, cocoa and nuts.

Other vitamins closely associated with oral health are vitamins A, B and C.

Pyorrhea is frequently associated with diabetes and the latter should be first excluded before the treatment of the pyorrhea is started.

Acute gingivitis is often secondary to some diseases of the ductless glands, particularly hypothyroidism.

To finish the meeting Mr. Hal Rhodes, golf professional, presented a series of moving pictures to show the fundamentals of the golf swing. He also demonstrated, to impress upon the men, what all good golfers do in swinging the club. The reels shown of the Gold Trail and the P.N.W. Tournaments were of great interest, showing the top notch professionals of the continent and the outstanding amateur stars of the Pacific Coast.

Dr. Emory C. Jones is vice-president of the Vancouver Golf and Country Club, while E. Fraser Allen holds the position of captain of Quilchena Golf Club. The golfing outlook for 1937 appears very bright, for the new Capilano Golf Course will be the scene of future competitions. This wonderful course is considered the height of perfection, Stanley Thomson's master golfing achievement.

The annual meeting of the British Columbia Dental Association will be held in Vancouver in the latter part of May. Definite dates have not been set.—*J. S. Bricker.*

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Some forty dentists from British Columbia attended the annual meeting of the Northwest Pacific College Alumni, Portland, Oregon. This is one of the largest meetings held on the Pacific Coast. Dr. R. L. Pallen was a guest speaker.

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Dr. Frank P. Smith, Vancouver, attended the Chicago Mid-Winter Meeting, held during February. He is a vice-chairman of the program committee of the Pacific Coast Dental Conference.

#### **Result of Amendments to Dental Act**

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All newspaper and radio broadcast advertisements have ceased since the new amendments have been enforced. The Council should be grateful for the splendid co-operation of the members of the College of Dental Surgeons of B.C. because this co-operation is the highest compliment that they can show them for their splendid achievements.

**ALBERTA:**

**Edmonton School Survey**

During September and October, 1936, a dental survey was made of the pupils in Grades 2, 3, and 4 of the Edmonton Public Schools. The work was done by the dentists of the clinic staff of the School Board.

All defects were marked on duplicate charts, one chart being retained by the school nurse, and the other being given to the parent or guardian of the child. Any enamel surface in which a sharp pointed explorer would catch was considered a defect. The remedy of these defects was left entirely to the discretion of the individual's dentist — no advice was given, either to parent or child as to treatment. A letter was mailed to each dentist in the city explaining the survey and asking his co-operation.

The particular findings of the survey were as follows:

|                                                    |        |
|----------------------------------------------------|--------|
| Number of schools.....                             | 33     |
| Number of children examined.....                   | 4,030  |
| Number of children found non-defective .....       | 186    |
| Percentage of children found to have defects ..... | 95.38% |
| Number of defective permanent teeth .....          | 7,838  |
| Number of defective deciduous teeth.....           | 13,081 |

We believe that this survey has been a step toward better dentistry for the child and in general a better health service. It has also provided the parent with correct and thorough information as to the dental health of the child, and impressed the pupils with the importance of oral health.

Dental Staff,

Edmonton Public School Board,

Per H. R. MacLean, D.D.S.

**Edmonton**

The Edmonton Dental Society held its annual dinner and dance on Friday, February 5th, at the Corona Hotel. Before dancing an interesting program was enjoyed. The guest speakers were, a representative of the Edmonton Medical Academy and Dr. R. W. Bradley, who proposed the toast to the ladies.

**Calgary**

Dr. H. E. Bulyea, head of the Department of Dentistry of the University of Alberta, gave an interesting paper on "The Causes of Dental Caries", at the Calgary Dental Society meeting on January 11th.

**Red Deer**

Dr. J. B. Long, of Red Deer, has been unanimously elected Chairman of the Board of School Trustees for the year 1937.

**SASKATCHEWAN:**

**Sympathy**

Dr. J. E. Rundle and Dr. W. J. McCauley, of Moose Jaw, are receiving the sympathy of their confrères, on the loss each has recently sustained in the death of his mother. Dr. Rundle's mother was a long time resident of Winnipeg and Dr. McCauley's mother was practically an "old-timer" of Moose Jaw.

**President's Report**

The Annual Report of the President of the College of Dental Surgeons of Saskatchewan is just to hand and contains some items of general interest.

As in recent years, the Government of Saskatchewan is making a small grant to dentists in the relief areas to look after emergency work for relief recipients.

The Dental Council again in 1936 co-operated with the C.D.H.C. and the Saskatchewan Government to provide free dental services for school children in relief areas. These grants, together with the amounts collected from the school districts affected, gave dental treatment to 3,054 children, without cost to the parents.

The Council announced with deep regret, the death, during the past year, of two valued members of the profession in the Province, Dr. H. L. Lamphere, of Wakaw, formerly of Swift Current, and Dr. F. W. Wright, of Young.

**Saskatoon Dental Association**

Members of the Association entertained their wives at a dinner bridge in the Bessborough Hotel in January.



### **Saskatoon**

Business men and friends united in honouring Dr. H. S. Locke at a smoker on January 2, prior to his removal to Shellbrook where he will take up the practice formerly conducted by the late Dr. Robertson.

### **MANITOBA:**

#### **Winnipeg Dental Society**

The February meeting of the Winnipeg Dental Society was another successful gathering of the faithful and some new members in prospect. Comments from the latter indicate that they think the meetings are profitable and purpose becoming members.

Dr. W. J. Riley presented the method of "Immediate Denture Service" as in use at the Dental Department of the University of Minnesota. Discussion was led by Dr. E. Roy Bier from the exodontist's viewpoint and by Dr. Reeve Morrison as a prosthodontist.

Dr. C. J. Frederic Jackson, Chairman of the Educational Committee of the Manitoba Dental Association, introduced the subject of public education by means of the moving picture and was followed by a presentation, by Dr. J. F. Morrison, of the educational value of the radio and screen for conveying information to the laity. After considerable discussion the meeting requested that further details be presented at the March meeting of the Society.

### **ONTARIO:**

#### **Dental Health Educational Program**

Following last winter's educational campaign for better dental health conducted by the Canadian Dental Hygiene Council under the auspices of the Departments of Health and Education of Ontario, plans were laid early last autumn to carry the program into other cities and towns of Ontario during the present winter. In November the Field Secretary of the Canadian Dental Hygiene Council gave his series of addresses in Welland, Simcoe, Brantford, Woodstock, and Ingersoll. At present he is working in Eastern Ontario, having completed Lindsay, Peterborough, Brockville, and Gananoque. His schedule for this season includes Kingston, Belleville, Trenton, Picton,

Cobourg, Bowmanville, Port Hope, Oshawa, Whitby, Perth, Renfrew, and Pembroke.

The Board of Directors of the Royal College of Dental Surgeons, and the Public Dental Health Committee of the Ontario Dental Association are again co-operating in promoting this health educational effort. The dentists have given splendid assistance in the organization work and in inspecting the mouths of the school children just prior to the campaign in their city. The lay committees organized to arrange meetings have been most enthusiastic and helpful. Special mention should be made, also, of the contribution of the local officials of the Provincial Departments of Health and Education.—*R. D. Thornton.*

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#### **Re Dr. Bert L. Hooper's Lecture**

At the afternoon meeting in the Royal College of Dental Surgeons the large Assembly Hall was filled to capacity to hear Dr. Bert L. Hooper's address and to see the moving pictures of his technique for Immediate Insertion of Full Dentures. It was obvious that Dr. Hooper had spent many hours in the preparation of the film as it gave every detail of his technique. Each step was so clear that from it even any general practitioner could carry a case through to a successful finish. In my opinion it was one of the finest presentations that we have ever had before the Academy of Dentistry.

At the evening meeting Dr. Hooper stressed the artistic side of artificial restorations, contrasting Art in Dentistry with all the other known arts—painting, sculpture, decorating of china, etc. In all branches of art artists imitate nature but with most, their completed objects stand alone, independent of their surroundings. A dentist's work, on the other hand, is absolutely dependent on its surroundings. The picture must be made to harmonize with the frame, so to speak. And in this case the frame is living tissue, the human face. The whole facial expression focuses on the aesthetics of the mouth.

Dr. Hooper stressed the importance of photographs and pre-extraction records as an aid in imitating nature. He seemed to consider irregularity in the set-up as a big contribution to the aesthetics of the case. Many times he used the expression "Create harmony in irregu-

larity." It seemed to me it was of much importance to him.

In summing up, the dentist's achievement does not symbolize beauty alone. It expresses utility, economy, architecture and beauty and so it is a real art.—*John A. Bothwell.*

### **Toronto Academy of Dentistry**

February 10 was fraternal night in the Toronto Academy. The executive officers honoured their past presidents with a dinner at the Granite Club. Dr. W. J. Kerr, immediate past president, in his usual masterly style was chairman for the evening and in charge of all arrangements. Dr. Roger E. McMahon of the Montreal Dental Club was guest essayist. Dr. McMahon, now known as Roger to dentists in Toronto, brought with him the atmosphere of friendship and cordiality so prevalent in his home society and his general personality radiated these fraternal qualities to everyone in his audience. This was the fifth consecutive exchange of essayists between Toronto and Montreal, a gesture which has made many warm friendships, and created a better understanding of dental problems in both provinces. The subject under discussion was a treatise on "How to Extract Teeth," with the least amount of effort, and with a view to conservation of alveolar process. The speaker dealt with some phases of pre-operative and post-operative treatment so as to reduce to a minimum the patients' discomfort. Dr. Amy, Dr. Jack Trelford and Dr. Kerr contributed to the discussion and Dr. Ed. Grant in a free, eloquent style, expressed the enthusiastic thanks of the meeting to Dr. McMahon for his address. In closing the meeting Dr. Kerr asked Dr. McMahon to carry home with him to Montreal the felicitations and greeting of the boys in Toronto.

### **Ladies' Night of the Academy**

Once a year the fellows of the Toronto Academy of Dentistry hold a dinner dance to entertain their ladies and friends. This year the party was held at Eaton's, College Street, on January 29. Dr. W. G. Trelford and his committee—Dr. Ken. Harris, Dr. Floyd Saunders, Dr. Harvey Bean, Dr. Syd. Woollatt and Dr. Willard Armstrong—are to be commended for the success and high order of the whole even-

ing. President and Mrs. Crouch, with Dr. and Mrs. Veitch, Dr. and Mrs. Harvey Reid, and Dr. and Mrs. W. J. Trelford received the 350 members and guests as they assembled in the Round Room for dinner. After dinner, Karl Mueller, with his 12-piece orchestra, provided music for dancing. During the evening a male quartette, a soprano soloist, a novelty tap dancer and a fashion show provided variety and glamour to the entertainment. For those who wished a game of cards, Dr. Sydney Woollatt was master of ceremonies for the bridge tournament in the lounge. The efforts of the Academy officers in doing honour to the ladies is indeed appreciated by the members as is evidenced by the splendid patronage of this annual event.

### **Dentists' Wives Association**

The dentists' wives of Ottawa formed an association in January. The following officers were elected: President, Mrs. S. C. Akins; vice-presidents, Mrs. S. W. Bradley and Mrs. E. W. Oliver; recording secretary, Mrs. Wm. S. H. Sinclair; corresponding secretary, Mrs. Lorna MacLachlan; press, Mrs. Theodore Winters; treasurer, Mrs. J. R. Hand; program, Mrs. W. S. Flora and Mrs. J. A. Gauthier; social, Mrs. F. A. French and Mrs. I. W. Hamilton. Following the business meeting, a social hour was spent.

### **Dental Clinic of North Bay**

In an effort to continue the dental clinic work started last year among the underprivileged children in need of dental attention the North Bay Lions Club agreed to donate \$100.00 towards holding another clinic providing additional money to the amount of \$300.00 to \$500.00, be donated by other organizations. The I.O.D.E. have also agreed to give \$100.00.

### **Toronto Dental Nurses' Alumnae Association**

The February meeting of the Toronto Dental Nurses' Alumnae Association was held on February 9, at the Faculty of Dentistry. It was decided to hold the annual bridge on April 3 at Eaton's Round Room, College Street.

This month the first "Mothers' and Daughters' Night" was held. During the business meeting the mothers were taken on an inspec-

tion tour of the infirmary and surgery. Dr. R. G. Ellis showed films taken on his interesting trip last summer across Canada to Australia and New Zealand.

Refreshments were served at the close of a very enjoyable evening.

#### **Ottawa Dental Nurses and Assistants**

A reorganization meeting of the Ottawa Dental Nurses' and Assistants' Association was held on December 15, in the office of Dr. W. G. Joyat, with the honorary president, Miss K. Anderson, in the chair.

#### **QUEBEC:**

##### **Montreal Dental Club**

Dr. Ante was delegated by the Toronto Academy of Dentistry to address the Montreal Dental Club, at the annual interchange of clinicians this year. For the past several years this feature of the Montreal Dental Club's activities has been eagerly looked forward to, and this year was no exception. Dr. Ante demonstrated phases of full and partial prosthesis at the afternoon session in the club rooms, and in the evening he showed numerous slides, depicting partial denture design, laying

special emphasis on proper clasp construction. Dr. D. D. MacDonald, president of the Montreal Dental Club, presided at both sessions.

Dr. Roger McMahon has been selected by the Montreal Dental Club to address the Toronto Academy of Dentistry in Toronto in February.

#### **Nurses and Assistants**

At the January meeting of the Montreal Dental Nurses and Assistants Association, Miss MacDonald, lecturer in bookkeeping at the Business College of the Congregation of Notre Dame, gave a short address on "Bookkeeping in a Professional Office." Following Miss MacDonald's address the members were entertained by an hour's showing of movies, supplied by Mr. Morgan of the Valmont Company.

#### **Dentists Fined**

For his fourth offence of practising dentistry illegally, A. Frederic was fined \$300 and costs when he appeared before Judge Tetreau. Rene Parent, who appeared on the same charge for the second time, was ordered to pay a fine of \$100 and costs or spend the next month in jail. Frederic's alternative was three months in jail.

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## **EMPIRE NEWS**

#### **GREAT BRITAIN:**

##### **Doctors and Dentists Being Victimized by a Racket**

The racket is operated by unscrupulous "medical agents" who specialize in arranging finances for clients who want to buy practices.

Doctors who lack sufficient capital often seek the aid of agents who find a practice for sale, and arrange for them to buy it by means of a loan from a bank, on the security of an endowment policy which the purchaser takes out. In reputable hands this system is quite fair.

But there are a number of shady medical agents who net large sums in commissions by "boosting up" practices which have actually proved financial failures and unloading them on unsuspecting clients as flourishing concerns. Figures are based upon years when the practice

was in a flourishing state, so that a practice which is represented as bringing in a gross return of £2,000 may actually be worth little more than £600 and the purchaser is faced with the prospect of paying off an enormous debt out of the income from a practice which will barely keep him. The results of this sort of swindle have been tragic.—*Sunday Referee*, London, January 10, 1937.

#### **SOUTH AFRICA:**

The first National Congress of the Dental Association of South Africa was held at Johannesburg on December 14 to 18. The delegates were welcomed by the Mayor of Johannesburg and the Congress was opened by Mr. J. H. Hofmeyr, Minister of Mines, Education, Labour and Social Welfare.

**AUSTRALIA:**

**Benevolent Fund**

Upon the recommendation of the Benevolent Committee of the New South Wales Branch of the Australian Dental Association, there was instituted a Benevolent Night. At this meeting the chairman of the committee briefly addressed the members, commending to them the worthy objects of the benevolent fund and inviting donations. This resulted in £70 being promised.

**NEW ZEALAND:**

The dental profession in New Zealand has taken a forward step in that a Dentists' Amendment Bill has been passed by the legislature providing for the establishment of a Dental Council to control the affairs of the profession. This bill was originally modelled on some of the best features of the English and Australian Acts.

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**GENERAL NEWS**

**Dominion Dental Council**

The examinations of the Dominion Dental Council will be held in various centres in Canada from May 25 to 31 inclusive.

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**Convention Postponed**

The Organizing Committee of the Sixth Biennial Dental Conference of the American University of Beirut has decided to postpone the Conference until the spring of 1938 owing to the unsettled conditions in the Near East.

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**A.D.A. Broadcasting**

The American Dental Association's fifteen-minute radio program presented weekly since last September over Columbia's northwest chain, has recently been transferred to Columbia's larger midwest network. The programs are now available to twenty stations and reach a potential audience in ten states.

The Columbia Broadcasting System furnishes the time and facilities free of charge to the American Dental Association.—*Journal of the A.D.A. and Dental Cosmos*, February 1937.

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**Paris Exposition Will Devote Section to Medicine and Science**

A liberal education in the field of modern medicine and a comprehensive survey of resultant achievements will be one of the many interesting attractions at the Paris 1937 International Exposition.

According to present plans announced by the French High Commissioner, three huge pavil-

lions will be devoted to this unusual display. Special emphasis will be placed on the precise scientific character of modern medicine as compared to the hit or miss methods of the 19th century.

The Claude Bernard Pavillion will contain among many other unique exhibits, a transparent man, illuminated to show the glands, nervous system, and general anatomy. The Laennec Pavillion will contain a remarkable and important collection of instruments, books and relics of 19th century medicine, together with a display of modern medical instruments and equipment, illustrating the advances of the past 50 years in the science of medicine.

Every branch of medicine will be represented and treatment for certain diseases will be demonstrated in many cases. Moving pictures and everything possible will be employed to acquaint the layman with the scientific and technical accomplishments of modern medicine.

In addition this exhibition will portray the probabilities of future medical science.

The debt to chemistry and physics will be explained, without whose co-operation we would still lack such important curative and diagnostic agents as Radium and the x-ray. The endless collaboration of energies working for the benefit of mankind will be described, and civilization's hopes in the never-ending struggle against disease and death will be indicated at the Paris Exposition next May.—*Abstract of Press Release of Franco-American Committee, Paris International Exposition. (A.D.A. Press Release Service).*





Dental Health Exhibit in Field Annex Building, Chicago.

### Health Exhibit

The above photographic reproduction shows the type of dental health educational exhibit that has been placed in one of the display windows, on the corridor, on the ground floor of Marshall Field and Company, Chicago, during the past several months.

That this kind of educational effort is of value and interest to the public is attested to by the fact that an unexpectedly large percentage of people passing through this corridor stop to study the exhibit.

The material was supplied by the Educational Committee of the Chicago Dental Society. It is the plan of the Company management to continue this educational project, in co-operation with the Chicago Dental Society, and, ultimately to cover all phases of dental care.—*Bulletin of the Chicago Dental Society.*

*We are indebted to the Chicago Dental Society for graciously loaning us the electro-type used in the reproduction of the above*

*picture. We observe with great interest the splendid efforts being put forth by this Society in every phase of public dental health work. We would commend this policy to the various dental associations and societies of Canada.—Editor.*

### Announcement of the Lord and Chaim Prizes for 1937

The First District Dental Society of the State of New York invites the preparation and submission of essays to compete for the Lord and Chaim Prizes.

Annually, at the discretion of the Board of Directors, these awards may be made from funds made available for that purpose through the beneficence of the late Morris L. Chaim and Benjamin Lord, according to the following conditions.

1—The Morris L. Chaim Prize of \$250.00 is offered for a meritorious essay not previously published on research in dentistry or any of its specialties. The essay may also deal with the

fundamental sciences provided the work has a definite bearing on some dental problem.

2.—The Benjamin Lord Prize of \$150.00 is offered for a meritorious essay not previously published on the practical or clinical phases of dentistry.

#### CONDITIONS GOVERNING COMPETITORS

1. *Eligibility*—Members in good standing of any recognized dental, medical or scientific society in the United States or other countries; or duly registered students of a recognized educational or scientific institution.

2. *Date*—Papers are to be submitted on or prior to June 1, 1937 or June 1st of any succeeding year, to the Secretary of the First District Dental Society, 2 E. 103rd St., New York, N.Y.

3. *Manuscripts*—They shall be typewritten double spaced, and accompanied by all necessary photographs, drawings, diagrams, tables, and bibliography and shall be ready for publication. All manuscripts submitted shall be in English.

4. *Identification*—The manuscripts and all drawings, diagrams, photographs, tables, bibliography, data, etc., shall be in a plain wrapper or envelope which shall bear on the outside some symbol, group of letters, figures or other identification mark, and accompanying each such sealed packet or envelope, another sealed envelope having on the outside a duplicate of such symbol, group of letters, figures or other mark, and within this sealed envelope shall be the name and address of the person submitting the manuscript, also the names of societies of which the competitor is a member. There should be nothing in the essay which will identify the person submitting it.

5. *Publication*—Essays receiving the awards may be published after announcement of the awards in any reputable journal in the United States at the discretion of the author, together with simultaneous publication by the First District Dental Society of the State of New York, if it so desires. Wherever and Whenever published, the papers awarded the prizes shall be accompanied by this statement. "Awarded the Morris L. Chaim or the Benjamin Lord Prize (as the case may be) by the First District Dental Society of the State of New York for the year —."

6. *Disposition*—Essays submitted but not

awarded prizes will be returned to the authors.

Further information may be obtained by addressing: E. M. Davies, Executive Secretary, First District Dental Society, Academy of Medicine, 2 East 103rd St., New York, N.Y. —*Reprinted from THE NEW YORK JOURNAL OF DENTISTRY, January, 1937, vol. VII, No. 1, page 30.*

#### Grant for Medical-Economic Studies

The Julius Rosenwald Fund has made a grant of \$165,000 over a five-year period to the Committee on Research in Medical Economics. This committee has recently been incorporated in New York, with Michael M. Davis as chairman.

The committee will have a distinguished medical Advisory Board, to be enlarged as required. It will conduct and assist studies in the economic and social aspects of medical care, will train personnel in this field and, in co-operation with the medical profession and other agencies, will furnish information and consultation services on behalf of rendering medical care more widely available to the people at costs within their means.—*Bulletin of the Chicago Dental Society.*

#### Family Cost for Illness \$108 a Year

Washington, D.C., Dec. 18—The American Federation of Labor estimates sickness costs the average American family \$108 a year.

For the family with an annual income under \$1,200, it puts the bill at \$50.

In those figures, the federation contends, are found the two chief arguments in favour of federal sickness insurance:

(1) That the family with the least income gets the least medical service.

(2) That average costs do the citizen very little good when suddenly he is faced with a two hundred-dollar hospital bill.

"Out of one million persons in a normal year, 470 thousand will have no recognizable illness; 320 thousand will be sick once; 140 thousand will be sick twice; 50 thousand will be sick three times; 20 thousand will be sick four or more times.

"A study of costs of sickness in one thousand typical families with incomes ranging from \$1,200 to \$2,000 showed the cost of

medical care for sickness in 218 of these families amounted to over one hundred dollars; in 80 families, costs exceeded two hundred dollars, and in 16 of these 80 families they ranged from four hundred dollars to seven hundred dollars, or about one-third of the family income," the A.F. of L. says in a special report.

William Green, federation president, said today he would ask President Roosevelt soon to set up a federal commission to recommend sickness insurance legislation for inclusion in the social security program.—*A.D.A. Press Release Service.*

### Reprints Wanted

A dental education library for the classes in dental teacher education is now being developed at the New York University School of Education. We are appealing to dentists for contributions of reprints of educational articles, early and recent catalogues of dental schools, examination papers, bulletins, books, and other types of educational literature that may be used for instructional purposes.

Complimentary contributions will be duly acknowledged and should be forwarded directly to:

Dental Education Library,  
c/o Mr. R. Everill,  
Press Building—Press Reading Room,  
New York University—Washington Square,  
New York City.

We are particularly anxious to receive copies of Professor William J. Gies' Report to the Carnegie Foundation for the Advancement of Teaching entitled "Dental Education in the United States and Canada," issued as "Bulletin No. 19."—*Alfred J. Asgis, Courses in Dental Education, New York University School of Education.*

### Memorials to the Late Deans Webster and Seccombe

The question of a suitable memorial for the late Deans Webster and Seccombe has been under discussion for some time, with the result that a General Committee has been formed, consisting of the Executive Committee of the Faculty of Dentistry in the University of Toronto, the President of the Royal College

of Dental Surgeons, the President of the Ontario Dental Association, and a number of Toronto Dentists.

A representative from each Province has been selected and will be a member of this Committee. He shall select his own Provincial Committee and they shall determine the method of appealing for support in their Province.

The General Committee shall determine the general policies and shall receive the report of the Provincial Committees.

The Presidents of the Royal College of Dental Surgeons and of the Ontario Dental Association and the Toronto men constitute the Executive of the Ontario Committee which, in addition, has on it a Dentist from a number of localities to assist in the undertaking.

Of the General Committee, Dean Mason is Chairman, and W. E. Willmott Secretary-Treasurer.

It is suggested that the fund be known as the Webster-Seccombe Memorial Fund to establish two Scholarships to be known as the Albert E. Webster Scholarship and the Wallace Seccombe Scholarship, which shall be awarded to Students in the Faculty of Dentistry of the University of Toronto in which Deans Webster and Seccombe carried on their life work and made their outstanding contribution to dental education.

The conditions governing the award of the Scholarships shall be determined by the General Committee.

The names of the contributors shall be published, without indicating the individual amounts, and a final financial statement shall be published.

The representatives from the Provinces are:  
British Columbia—Dr. R. L. Pallen, Vancouver.  
Alberta—Dr. J. W. Clay, Calgary.  
Saskatchewan—Dr. A. J. Brett, Regina.  
Manitoba—Dr. M. H. Garvin, Winnipeg.  
New Brunswick—Dr. J. M. Magee, St. John.  
Nova Scotia—Dr. W. W. Woodbury, Halifax.  
Prince Edward Island—Dr. J. H. Ayres, Charlottetown.  
Quebec—Dr. J. S. Dohan, Montreal.  
Dr. J. Nolin, Montreal.  
Ontario—Dr. W. C. Trotter, Toronto.

W. E. WILLMOTT,  
Secretary-Treasurer.

## IN MEMORIAM

**Matthew McKay**—of Pembroke, Ontario, aged 78, died February 14, of influenza and pneumonia. Dr. McKay was Liberal member of the House of Commons for Renfrew North. He was a graduate of Queen's University and the Royal College of Dental Surgeons. At one time he taught public, model and high school at Pembroke and was a member of the high school board. For five years he served on the town Council. He is survived by his widow and three children.

•

**George B. Sommerville**—of Saskatoon, Saskatchewan, died January 25 from a heart attack. Born in Michigan, Dr. Sommerville graduated from the North Western University in 1907, came to Saskatoon in 1910 and entered practice with Dr. Charles Smith, later practicing alone. In 1921 he married Miss Gertrude Patrick, of Saskatoon. The widow and three sons survive to mourn the loss of a thoughtful husband and father. Dr. Sommerville was for many years and until his death, an active member of the Rotary Club of Saskatoon.

•

**Bertram Hanley Robertson**—of Shellbrook, Saskatchewan, aged 39, died early in January, from a septic throat. Dr. Robertson was born in Almonte, Ontario, and came to Saskatchewan in 1915, attending Normal School in Saskatoon. He served in the Flying Corps from 1916 to 1918 and, following demobilization, taught school at Bruno, Sask. He graduated in dentistry from McGill University, with very high honours in 1925, and practised in Shellbrook until his death. In 1934 he married Miss Dorothy Payne, of Shellbrook, who, with a baby daughter, survives him. An aged mother and two brothers in Ontario, and another brother, Dr. R. W. Robertson, of Preeceville, Sask., also survive.

Dr. Robertson was a member of the Dental Examination Board in Saskatchewan, where his keen intellect and outstanding ability was recognized, and his untimely death is greatly deplored.

**Artley E. Clint**—of Winnipeg, Manitoba, aged 57, died February 9 at his residence, 194 Oak Street, after an illness of a few days. Dr. Clint was born in Almonte, Ontario, the son of the late Dr. G. J. Clint, also a practitioner of dentistry in Winnipeg for many years.

He was a member of Prince Rupert Lodge A.F. and A.M., was a charter member of the Elmhurst Golf Club and was prominent in the councils of organized dentistry in Winnipeg.

About one hundred members of the Winnipeg Dental Society attended the funeral service in a body.

He is survived by his wife, his daughter, five sisters and two brothers.

•

**William Thomas Holloway**—of Peterboro, Ontario, aged 63, died February 8. Dr. Holloway was Mayor of Peterboro in 1926-27. He started practice in Wingham and moved to Peterboro thirty years ago.

He was a member of the Peterboro Golf Club, Past Master of the Corinthian Lodge, A.F. and A.M., member of the Peterboro Club and a warden of St. John's Anglican Church. He is survived by his widow and one sister.

•

**Walter Alonza Burns**—of St. Thomas, Ontario, aged 70, died February 12th, after an extended illness.

Dr. Burns conducted the practice established by his father in 1859. He was a graduate of the Royal College of Dental Surgeons and also of the Philadelphia Dental College. He was a past master of St. David's Lodge No. 302, A.F. and A.M., a member of the Royal Arch Masons, and the Knights of Pythias. He was an adherent of Trinity Anglican Church.

Dr. Burns was a public spirited man and an ardent sportsman, being interested in hockey, curling and hunting. He served on the City Council, on the Street Railway Commission and on the Board of Education.

In the World War he served for three years overseas as a member of the Army Dental Corps.

Surviving Dr. Burns are his widow, two daughters and two sisters.



## ... SECTION FRANÇAISE ...

Rédacteur.

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## Editorial

AU RETOUR d'un voyage que nous venons de faire aux Antilles et principalement à Haïti, nous en avons "rapporté non seulement du soleil, des amitiés précieuses mais aussi des souvenirs et documents très instructifs".

De ces souvenirs, le plus agréable est celui de notre visite à l'Ecole dentaire de Port-au-Prince, dont nous voulons retracer ici l'histoire, le rôle qu'elle remplit et les réformes qu'elle est en train d'accomplir. Avant 1928 l'on peut dire qu'il n'existait pas d'Ecole dentaire dans toute la République d'Haïti. A cette époque l'étudiant suivait les cours de l'Ecole de Médecine, mais comme un enfant deshérité, il y tenait une place bien modeste et en sortait avec un bagage dentaire plus modeste encore.

Cependant dans un pays aussi généreux, aussi vif et batailleur que celui d'Haïti, cet état de chose ne pouvait

durer. Et c'est alors qu'en 1928, le docteur Jules Thébaud, jeune diplômé de notre Ecole de Montréal réorganisa entièrement l'ancienne section d'odontologie au point d'en faire l'Ecole dentaire la mieux organisée des Antilles et de l'Amérique Centrale. L'Ecole dentaire de Port-au-Prince, "tout de blanc vêtue" étant construite pour des fins d'enseignement pratique, est contigue à l'Ecole de Médecine et à l'Hôpital général. Plus petite que notre Faculté dentaire, elle possède cependant une vaste salle de Clinique Opératoire, meublée de vingt chaises et tours Ritter. Les laboratoires de technique sont d'une grande beauté et surtout d'une grande propreté. La salle de Chirurgie buccale qui comprend six fauteuils est la mieux outillée de toutes les Ecoles américaines que nous avons visitées. Là on y opère des milliers de patients par année. Le lecteur pourra se faire une idée du

travail accompli, quand nous lui dirons que dans une seule année l'on a enlevé soixante-treize dents incluses, fait quinze apicotomies, quatre-vingt-quinze alvéolécotomies, cent traitements chirurgicaux de la Pyorrhée, deux cent vingt-huit ablations d'Epulis, dix-huit papillomes, quatre sinusites maxillaires et six fractures.

Comme on peut le voir par ce court exposé, le dentiste d'Haïti ne se limite pas seulement à l'extraction des dents. Son champ d'action ou d'opération est beaucoup plus vaste que le nôtre. Pourtant il vit en parfaite harmonie avec son cousin le médecin Haïtien, homme instruit et cultivé qui ne craint aucunement de lui laisser le soin de toutes les maladies de la bouche . . . et le patient ne s'en porte pas plus mal. . . . Mais si cette Ecole est merveilleusement organisée, n'y entre pas qui veut. Les études y étant gratuites, le nombre des étudiants est en proportion des affectations budgétaires arrêtées pour chaque année scolaire. "Pour le cas où le nombre des postulants est supérieur au cadre fixé, on procède par voie de concours auxquels! participeront d'abord les candidats détenteurs du titre Universitaire à l'exclusion de tous les autres" ce qui fait que le nombre d'élèves inscrits est de 15 au maximum pour les quatre années.

De l'enseignement, nous dirons qu'il est tout à fait identique à celui donné à notre Ecole. Avant de se présenter pour les examens de licence, les étudiants de

4ième année doivent exécuter les travaux suivants:

- 10 prophylaxies
- 5 aurifications
- 4 incrustations antérieures
- 50 incrustations et couronnes partielles (ou overlays)
- 40 obturations en amalgame M.O.D.
- 10 obturations en porcelaine synthétique
- 30 obturations de canaux
- 15 dentiers complets et partiels et plusieurs ponts.

Nous avons examiné longuement quelques-uns de ces travaux et nous croyons que les élèves font honneur au personnel enseignant dont tous les professeurs sont des gradués des Ecoles dentaires américaines, à l'exception du doyen qui est un gradué de notre Faculté.

En quittant cette Ecole à regret nous n'avons pu nous empêcher de penser, combien il a fallu d'initiative, d'esprit scientifique et de persévérance, pour établir en si peu d'années cette réforme, qui représente pour un pays comme Haïti, un progrès non seulement considérable mais presque une "révolution" dont l'honneur revient uniquement à l'un des "nôtres" le docteur Jules Thébaud; nom dont il faudra se souvenir quand l'on parlera du mouvement progressif de la Chirurgie dentaire aux Antilles et dans l'Amérique Centrale.

*Paul Geoffrion.*

## *Une Racine dans le Sinus Maxillaire*

par YVES LAFLEUR

**P**OUSSER une racine dans le sinus maxillaire est un accident qui, sans être bien fréquent, est tout de même du domaine des possibilités durant l'extrac-

tion des deuxièmes et troisièmes molaires supérieures, principalement.

Si un dentiste, en extrayant une molaire supérieure, fracture, par exemple,

la racine palatine, et qu'en essayant d'enlever cette racine, il la fait entrer dans le sinus maxillaire, ce dentiste ne doit pas pour cela se croire le plus malheureux et le plus malhabile des dentistes.

Au contraire! "The Dentist's Own Book" du Dr. Edmund Kells décrit un cas analogue qui s'est produit durant la longue carrière du bon vieux Dr. Kells.

Nous voici donc en présence d'une racine qui a pénétré dans l'antra de Highmore. Il s'agit de l'en sortir en employant une méthode aussi simple que possible.

Il faudra d'abord avertir le patient de ce qui vient de se passer et lui expliquer ce qu'on a l'intention de faire pour remédier à cet état de choses. Lui faire comprendre surtout qu'il n'a rien à craindre.

Une technique peu compliquée pour l'extirpation de cette racine est celle qu'on trouve dans "Mead's Oral Surgery", le traité le plus complet de chirurgie buccale qui existe à l'heure actuelle.

En examinant la cavité alvéolaire, on constate généralement que l'extraction de la molaire a produit une ouverture assez grande directement dans le sinus. Si cette ouverture n'est pas assez grande, on peut l'agrandir au moyen de fraises chirurgicales.

L'opération suivante consiste à remplir le sinus en introduisant par la cavité alvéolaire une mèche aussi longue qu'il

est nécessaire de gaze iodoformée d'un demi-pouce ou d'un pouce de largeur.

On laisse séjourner la gaze quelques minutes dans le sinus et ensuite, lentement, avec précaution, on l'en retire avec une précelle. Neuf fois sur dix, la racine sortira adhérente à la mèche ou encore tombera sur la langue où on n'aura qu'à la cueillir.

Si on ne réussit pas au premier essai, on pourra répéter le procédé deux ou trois fois. Si cette méthode ne réussit pas, c'est qu'il y a déformation grave du plancher du sinus et dans ce cas, il vaudra mieux consulter immédiatement un spécialiste.

Après que la racine a été enlevée du sinus, surtout si on a dû employer des instruments pour agrandir l'ouverture de la cavité alvéolaire, il faudra nettoyer le sinus avec une solution antiseptique non irritante.

On fermera ensuite l'ouverture de la cavité avec une suture au catgut, en y laissant un drain pour environ vingt-quatre heures. Après quoi on enlèvera le drain et on laissera agir la Providence ("Je le pensai, Dieu le guérit" — Ambroise Paré).

Généralement, tout rentre dans l'ordre, sans aucune autre forme de complication, surtout si l'on a eu soin d'observer les lois élémentaires de l'aseptie et de l'antiseptie.

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## Foyers d'Infection au Point de Vue Dentaire

**D**EPUIS longtemps déjà nous avons reçu certains travaux fort intéressants, mais dont la longueur et la nature nous ont forcés d'en remettre la publication de mois en mois. Vu l'espace restreint dont nous disposons, nous avons perdu tout espoir d'en pouvoir donner un

jour la reproduction intégrale. Force nous est donc d'en donner aujourd'hui un pâle et court résumé.

Le premier en date fut celui du Docteur Armand Fortier.

C'est une solide pièce qui dénote chez notre jeune confrère un louable souci de

la documentation et nous offre une étude bien détaillée de ce danger que les Américains appellent "The Focal Infection".

Il nous en donne d'abord l'historique qu'il fait remonter jusqu'à Arad Nana, médecin d'un roi d'Assyrie en l'an 668 A.C.

De là par une définition claire il met ses lecteurs en garde contre la confusion possible entre le foyer infectieux (Focus infection) tel que dents abcédées, pyorrhée etc. et son effet, l'infection focale, l'arthrite, conjonctivite etc.

Après avoir énuméré les désordres qui peuvent résulter des foyers d'infection, il nous rappelle fort à propos: "que tout spécialistes de la bouche que nous sommes,

nous ne devons pas oublier les répercussions générales que nos interventions peuvent entraîner. Comme tous les foyers d'infection n'ont pas une importance égale, il en fait une classification et passe ensuite à l'étude des diverses formes particulières dont il indique les signes diagnostiques et le traitement. Après une série de statistiques, il passe ensuite à l'étude de quelques cas pratiques et termine par là.

Il nous restera donc à faire dans un avenir aussi rapproché que possible, l'analyse des travaux des confrères Laroche de Québec et Tétreault de Montréal. Ces deux écrits traitent de l'hygiène bucco-dentaire.

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## Commentaire Médico-Légal des Observations Présentées

par le DR. F. BONNET-ROY,

*Professeur à l'Ecole Dentaire de Paris, Ex-Chef de Clinique à la Faculté de Médecine, Médecin-Expert près des Tribunaux.*

L'Odontologie—Janvier, 1936, p. 42.

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SANS une séance scientifique organisée à la Faculté de Médecine de Paris le 26 juin 1936, sous le patronage de la Fédération Dentaire Nationale de France; trois observations de cas ayant comporté ou pouvant comporter certains risques judiciaires furent présentées aux membres de cette Société.

Croyant intéresser les lecteurs de cette revue nous résumons brièvement ces trois observations pour lui en donner ensuite le commentaire Médico-Légal, paru dans l'Odontologie du mois de janvier 1937.

La première observation présentée par les docteurs Moreau et Debray, consiste dans un "Cas mortel de Méningite à pneumocoques", dont la cause tout en paraissant être due à une extraction den-

taire, révèle après l'autopsie que le point de départ est dû à une sinusite frontale qui dure depuis onze ans, laquelle amène une complication Cérébro-Méningée qui cause la mort du patient.

La deuxième observation, celle du Dr Pont traite des "Hémorragies gingivodentaires post opératoires" toujours susceptibles d'entraîner des conséquences judiciaires.

La troisième observation, celle du Dr Marmasse raconte la triste histoire d'un patient ami, père de deux enfants. Deux dents de sagesse inférieures lui donnent de temps en temps de légers accidents infectieux muqueux. On décide de pratiquer l'extraction sans anesthésie. L'opération est suivie immédiatement d'une



angine de Ludwig et le patient meurt exactement quatre jours après l'extraction.

Faute d'espace et malgré tout l'intérêt des autres commentaires, nous devons nous limiter à reproduire celui du Dr. Bonnet-Roy.

Après la spirituelle intervention de Maître Peytel, j'ai besoin de votre indulgence, et je m'efforcerai d'être bref.

A vrai dire, après toutes les observations judicieuses qui ont été exposées ce soir sur les questions à l'ordre du jour, il ne me restera pas grand'chose à ajouter, du moins au point de vue technique du spécialiste maxillo-facial.

Je me permettrai simplement de vous faire part des quelques réflexions qu'elles m'ont inspirées en me plaçant au point de vue du médecin-expert spécialiste.

Il y a très longtemps d'ailleurs que ces questions d'expertise technique préoccupent les médecins. En ce qui concerne plus particulièrement notre spécialité, dès 1898, le Dr. Amoedo publiait un important travail de médecine légale dentaire qui contenait des notions excellentes, auxquelles il n'y a pas grand'chose à ajouter.

Lorsque nous faisons acte de médecin sous quelque forme que ce soit, dans quelque spécialité que ce soit, nous engageons peu ou prou notre responsabilité. Et lorsque nous avons à examiner à titre d'Expert une affaire litigieuse qui s'est terminée, pas toujours, il s'en faut et heureusement, par la mort, nous nous trouvons en présence de difficultés qui sont extrêmement complexes. Nous avons à résoudre des questions multiples. Les unes sont posées par les actes thérapeutiques du praticien. Les autres par les revendications du malade et de son entourage. D'autres enfin—et cela commence à devenir beaucoup plus grave—sont inspirées par des médecins ou des spécialistes qui ont été consultés après coup, généralement à l'insu de celui qui a opéré et dont les propos n'ont pas tou-

jours été inspirés par une déontologie très rigoureuse.

J'insiste sur ces divers points. L'expert se trouve en présence de tous ces éléments:

Comment s'est comporté le praticien?

Quels sont les reproches que lui font le malade et son entourage?

Quels arguments d'ordre médical le malade a-t-il pu puiser dans des consultations prise à droite et à gauche dans un but qui n'est pas désintéressé?

Tout cela a une grande importance. En effet, lorsque notre mission d'expert est déterminée par un jugement, le libellé de cette mission est très variable d'un jugement à l'autre. On retrouve souvent dans ce libellé les différents arguments invoqués par les parties en présence. Un jugement stipulera très bien, dans la mission de l'expert: dire si l'anesthésie a été faite suivant les règles de l'art; dire si avant, pendant ou après l'opération le dentiste a bien fait de faire ceci ou cela; s'il a pris telle ou telle précaution, etc. . . . Il est fréquent que la mission soit très large; il est fréquent aussi qu'elle soit très précise. C'est ainsi qu'après avoir parlé, comme on l'a fait, ce soir, de l'embarras du praticien qui a un malheur, et de celui du client qui a subi ce malheur, on pourrait invoquer aussi, en dernière analyse, si j'ose dire, l'embarras de l'expert.

Ceci dit, reprenons, si vous le voulez bien, rapidement les principaux actes opératoires dans le cours d'une intervention.

On vous a parlé, à propos de la communication du Dr Pont, de la question des hémorragies. Voilà une question qui est à la fois terrible et très simple; je dirais même trop simple. M. Pont n'a jamais vu d'hémorragie grave consécutive à la suite d'une extraction dentaire; or, les travaux les plus remarquables du Dr Prosper-Emile Weil sur l'hémophilie ont été faits sur des sujets frappés d'hémor-

ragie grave après extractions dentaires.

Supposez à un autre point de vue, un malade qui a eu une terrible hémorragie, et qui un mois après se casse la jambe. Vous pouvez être certain qu'il se trouvera quelqu'un dans sa famille pour voir là une relation de cause à effet.

Le praticien pouvait-il avant son intervention prévoir l'hémorragie? Tout ce qu'a dit le Dr Pontest excellent. L'examen de l'état général, c'est très bien, mais un peu théorique. Est-ce que chacun de nous, avant chaque intervention, peut faire un examen général, surtout quand il s'agit d'une simple extraction dentaire?

Nous experts, dans un cas d'hémorragie ou d'hémophilie, nous serons amenés à poser au praticien quelques questions précises et, avant tout, celle-ci: "Vous êtes-vous informé auprès de votre malade pour savoir s'il était hémophile ou hémogénique et dans l'affirmative avez-vous fait rechercher le temps de saignement et le temps de coagulation?" Cependant, reprochera-t-on à un dentiste, dans un cas non suspect, d'avoir négligé cette précaution ou de ne pas en avoir imposé les frais à un malade modeste?

Gérard-Maurel nous a dit également des choses excellentes sur l'anesthésie régionale et locale. Il est extrêmement difficile d'apprécier, surtout a posteriori, les indications de tel ou tel mode d'anesthésie, et, là aussi, il ne peut s'agir que de règles générales inspirées par la doctrine que nous a exposée Maître Peytel, et sur laquelle je n'insiste pas.

Pour vous faire toucher du doigt la complexité de ces questions, je vais vous citer un fait bien qu'il ne se rapporte pas à l'Odonto-Stomatologie:

Il y a quelques années je suis commis par un juge d'instruction pour examiner un enfant qui présentait des phénomènes graves. Je fais diligence; ces phénomènes étaient tellement graves que l'enfant était mort depuis la veille au soir. Je me fais

exposer par la famille et le médecin la genèse des accidents. Il s'agissait d'une extraction de corps étranger de l'oreille, qui n'avait pas été faite avec une adresse remarquable puisque l'instrument avait pénétré dans le labyrinthe et avait provoqué des complications méningées et pulmonaires.

La famille appuyée, d'ailleurs, par son médecin attaquait le spécialiste qui avait pratiqué la recherche du corps étranger, non pas pour avoir pénétré dans le labyrinthe, mais parce qu'ayant pratiqué une anesthésie au chlorure d'éthyle, il n'avait gardé l'enfant que deux heures à la Clinique et provoqué ainsi des accidents de broncho-pneumonie qui avaient amené la mort.

L'argument invoqué était stupide, car quand on a anesthésié un enfant 3 ou 4 minutes dans une clinique, on peut très bien le renvoyer au bout de 2 heures sans lui faire courir aucun risque.

Le spécialiste a bénéficié de la singulière argumentation de la famille et du médecin puisque c'est sur ces points précis que j'ai eu à répondre et que la famille a été déboutée.

Vous pouvez apprécier, par là, par quelles singulières considérations sont déterminées quelquefois nos missions, et à quelles questions nous avons à répondre. Si cela quelquefois peut tourner à la confusion du praticien, cela peut tourner aussi à la confusion du demandeur. Quant à la question des ostéomyélites dont vous a parlé M. Roy, c'est une question difficile, délicate. Je vous soumettrai en terminant un cas concret qui me permettra d'y revenir.

Enfin il y a aussi un point sur lequel il faut dire un mot, c'est qu'en matière d'expertise, spécialement d'ordre odontologique, pour des accidents survenus à la suite d'interventions pratiquées par des chirurgiens-dentistes, on a vu des experts ne pas juger l'acte opératoire lui-même, mais certaines manoeuvres post-opératoires

pratiquées par le chirurgien-dentiste, pour réparer un accident (la recherche dans les tissus d'une aiguille rompue par exemple). L'expert, dans un cas dont j'ai gardé le souvenir, a conclu que le chirurgien-dentiste n'avait pas à pratiquer une intervention qui n'était pas de sa spécialité, qu'il n'avait, en somme, pas le droit de pratiquer (la recherche de l'aiguille cassée), et sur cette argumentation, dans l'espèce, le chirurgien-dentiste a été condamné.

Si vous me permettez quelques réflexions et quelques conseils de prudence, je vous dirai ceci: "Vous avez à répondre, lorsque vous êtes poursuivi par un malade, à une série de questions qui sont quelquefois absolument imprévisibles. Vous vous verrez reprocher des fautes saugrenues que vous n'aurez pas commises, des négligences qui sont de pratique courante, et c'est sur le point où nous serions quelquefois le plus difficile à défendre que nous ne serons pas interrogés".

Je ne reviendrai pas sur le conseil de Gérard-Maurel de ne laisser jamais passer un incident ou accident sans le dire au malade. J'ajouterai, en insistant franchement: "Prenez toujours contact avec le médecin du malade quand une complication se produit, car c'est là, neuf fois sur dix, que gît le drame psychologique qui est à l'origine des poursuites intentées à l'égard des praticiens". C'est sur l'intervention du médecin, en votre absence, souvent à votre insu, même si celui-ci n'a laissé échapper aucune parole imprudente, que le malade ou son entourage considéreront votre responsabilité comme engagée.

A un autre point de vue, tout à fait pratique et qui corrobore ce que disait tout à l'heure Maître Peytel, tenez en toutes circonstances, tenez toujours une fiche, une observation extrêmement précise. Ce n'est pas le spécialiste qui vous donne ce conseil, c'est l'expert, car c'est

uniquement comme expert que je me permets de parler.

Lorsque, nous experts, nous avons à apprécier après plusieurs années des phénomènes cliniques, comment voulez-vous que nous formulions un jugement impartial, désintéressé — car il n'est pas question naturellement pour les experts de donner systématiquement raison ou tort au médecin ou au malade — comment voulez-vous que nous puissions donner des renseignements de valeur au Tribunal si le praticien ne nous apporte pas une observation cohérente, suivie au jour le jour?

Je me suis trouvé dans ces circonstances plusieurs fois. Un praticien est difficile à défendre lorsque aux arguments de la famille ou du malade, il ne peut pas opposer une observation prise au jour le jour; c'est indispensable et c'est l'élément principal de la défense du praticien poursuivi par un malade récalcitrant.

Je termine en vous exposant un cas concret qui illustre d'une façon assez saisissante les différentes réflexions que je viens de vous présenter.

Il s'agissait d'un malade que j'ai eu à examiner l'année dernière, exactement le 28 février 1935, pour une affaire qui remontait à 1930. J'ai eu à émettre un avis cinq ans après les incidents qui étaient incriminés.

Ce malade était venu trouver son chirurgien-dentiste parce qu'il avait une dent qui lui faisait mal, première ou deuxième prémolaire supérieure. Le chirurgien-dentiste enlève la dent, tout se passe normalement. Le malade dans la suite fait un abcès dans la région temporale, un abcès cervical qui exige une longue incision, puis des abcès de la nuque et même de la région scapulaire. Il est 8 mois à l'hôpital sans pouvoir reprendre son travail.

Certainement pas tout de suite, mais au bout d'un certain temps car ces pensées-là viennent toujours au bout d'un



certain temps de réflexion—il s'est dit que le chirurgien-dentiste qui lui a enlevé sa dent pourrait bien lui payer ses 8 mois d'inactivité. Il l'a poursuivi avec le bénéfice de l'Assistance judiciaire.

Le malade en effet, à l'habitude, ne vous reproche rien pendant un moment; puis au bout de quelques mois il réclame les 100.000 fr. rituels de dommages-intérêts dont Maître Peytel vous parlait tout à l'heure.

Ce malade, après son extraction avait été vu par un premier médecin qui écrivit sur un certificat: "Dès notre première visite, nous avons constaté une fracture de la branche montante du maxillaire inférieur, contrôlée par la radiographie".

Or il s'agissait d'une dent supérieure et c'est une fracture du maxillaire inférieur que ce médecin constatait!

Quant à la radio, elle est interprétée dans ces termes par le radiographe: "Fêlure très fine et sinueuse dont on aperçoit seulement qu'un segment sur la branche montante du maxillaire inférieur."

J'ai examiné cette radio: on ne voyait pas grand chose; il s'agissait d'un positif sur papier, ancien, terni et peu net.

Un deuxième médecin, le chirurgien qui a opéré le malade de ses abcès multiples au cours d'une septicémie, écrit dans un second certificat: "Très profondément infecté, il dut subir de multiples interventions pour abcès profonds. Cette septicémie semble avoir eu pour point de départ une extraction dentaire difficile, ayant entraîné une fracture de la branche horizontale droite du maxillaire inférieur et secondairement de l'ostéite."

Ainsi voilà un radiographe et deux médecins qui, après l'extraction d'une prémolaire supérieure, trouvent une fracture du maxillaire inférieur qu'ils impliquent à cette extraction de la dent supérieure!

J'ai été commis comme expert et ma mission reflétait, ainsi que je vous le

disais tout à l'heure, toute l'argumentation du malade étayée sur les certificats médicaux.

Les termes de ma mission étaient les suivants: "d'examiner G., de décrire son état, de dire si la fracture et l'infection alléguées ont eu pour cause l'extraction dentaire effectuée par P. et si elles sont imputables à une faute ou à une imprudence de ce dernier; fournir au Tribunal tous éléments de nature à lui permettre l'évaluation du préjudice résultant pour G.; de donner son avis sur tous les points qui divisent les parties".

Le malade portait évidemment toutes les cicatrices de ses abcès multiples. J'ai discuté longuement pour savoir si on pouvait faire une fracture du maxillaire inférieur par l'extraction d'une dent au maxillaire supérieur; j'ai conclu par la négative.

Mais il restait la question de la septicémie. Il est bien certain, M. Roy vous l'a dit, de même que Gérard-Maurel et bien d'autres vous le diront, qu'on peut voir des phénomènes septicémiques se déclancher après une extraction dentaire non pas à cause de l'intervention sur la dent, mais malgré celle-ci.

Je me permets de vous lire la discussion que j'ai rédigée dans mon rapport. Toute paraphrase est inutile; ces quelques lignes vous indiqueront quelle est la doctrine que je crois raisonnable en pareil cas:

"S'ensuit-il que les accidents infectieux présentés par M.G. ne puissent pas être rattachés à l'extraction de la dent supérieure faite par M. P. le . . . ?

"Nous pensons que ces accidents peuvent bien être secondaires à l'extraction de la dent en question. Il est heureusement exceptionnel, mais il n'est pas impossible qu'une extraction provoque l'éclosion brutale de phénomènes inflammatoires locaux, ostéopathiques, adéno-pathiques ou même à distance, sans que rien—nous insistons sur cette notion—puisse les faire prévoir. . . . Il n'est pas



nécessaire qu'une extraction soit pratiquée; la simple trépanation d'une dent infectée suffit parfois à déclancher des complications de cette nature."

" . . . Nous nous bornerons à rappeler que toute manoeuvre, même la plus simple, la plus habituellement inoffensive sur une dent infectée (et une extraction ne se pratique pas sur une dent saine) libère des germes pathogènes chez un sujet dont les moyens naturels de défense sont plus ou moins énergiques, sans que rien, dans l'état actuel de nos connaissances, permette au préalable de mesurer leur valeur et de prévoir leur défaillance.

"Cette notion n'est pas particulière, d'ailleurs, à la chirurgie dentaire. Elle se vérifie chaque jour en matière de chirurgie générale, quand celle-ci intervient au milieu septique. Qu'il y ait là accident opératoire, accident imprévisible, cela n'est pas douteux, mais il n'est pas néces-

saire pour l'expliquer de faire intervenir, comme dans l'espèce en cause, une faute opératoire ou une imprudence, qui eussent provoqué notamment une fracture du maxillaire inférieur, dont nous avons exposé plus haut, qu'elle n'est ni démontrée, ni explicable".

Et j'avais conclu sur ce point: "Les accidents infectieux présentés par M. G. peuvent être la conséquence pathologique de l'extraction dentaire pratiquée par M. P., mais ils ne sauraient être considérés comme imputables à une faute ou à une imprudence de ce dernier".

Dans l'espèce, le Tribunal a accepté les conclusions de mon rapport. Notre confrère chirurgien-dentiste a été complètement dégagé, son malade débouté, et circonstance plus heureuse que celle dont a parlé M. Roy tout à l'heure, ce malade n'est pas allé en appel.

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## Une Opinion

**L**E sujet suivant, sans être purement dentaire, nous intéresse au point de vue médical et surtout au point de vue social. Il en est bien peu parmi nous qui n'ont un jour entendu discuter ce point: doit-on poursuivre l'abolition, des lieux de prostitution ou tenter de les réglementer. Voici une opinion formée après expérience.

LE PROJET DE LA LOI SEILLIER CONCERNANT LA PROPHYLAXIE DES MALADIES VENERIENNES

*Le Siècle Médical, décembre 1936*

On ne s'étonnera pas non plus de voir insérées dans un tel projet de loi des dispositions débordant sans doute le cadre de la législation sanitaire proprement dite, mais qui pourtant se rattachent à celle-ci par un lien étroit: nous

faisons allusion aux articles 16 à 20 contenus dans le titre II du projet de loi.

Sans entrer dans des considérations relatives aux exigences essentielles de la morale critique, il suffit de noter, en accord avec le plus grand nombre des hygiénistes, l'impossibilité d'empêcher la propagation des maladies vénériennes, sans réprimer le délit de racolage sous toutes ses formes.

Par ailleurs, médecins et légistes sont aujourd'hui, en grande majorité, d'accord pour accepter les solutions défendues depuis si longtemps et avec tant d'ardeur par les champions de théories dites "abolitionnistes" et, d'autres part, il est aujourd'hui démontré par les expériences faites aussi bien dans de très nombreux pays étrangers que dans un certain nombre de villes françaises, que le sys-

*tème dit "réglementariste", reconnu totalement inefficace, au point de vue sanitaire, en raison de l'énorme proportion de prostituées échappant à tout contrôle médical, peut être supprimé sans aucune aggravation du péril qu'il s'agit de conjurer.*

Dans ces conditions, nous n'hésitons pas à rompre avec une longue tradition de timidité et de temporisation, et à vous proposer de suivre l'exemple d'un nombre très considérable d'Etats étrangers, c'est-à-dire de réprimer enfin le délit de proxénétisme qu'on s'étonne de

voir encore ignoré de notre législation pénale. Ainsi pourra être mis fin à l'attitude expectante des représentants de notre pays dans les commissions internationales chargées d'établir des conventions contre la traite des femmes et des enfants; pareille attitude est depuis longtemps, il faut qu'on le sache, jugée fort sévèrement hors de nos frontières, et l'on peut dire, reprenant sans exagération une expression employée jadis par le chef du gouvernement en une occasion célèbre, qu'elle compromet manifestement le bon renom de la France à l'étranger.

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## Société Dentaire de Montréal

*Nous publions, ci-dessous, une lettre collective, que le Comité Exécutif de la Société Dentaire de Montréal a envoyée aux dentistes des environs de Montréal pour les inviter à devenir membres de la Société.*

*Nous répétons cette invitation pour atteindre ceux dont le nom aurait été oublié.*

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Montréal, le 16 décembre 1936.

Cher confrère,

La Société Dentaire de Montréal vient d'élaborer une nouvelle constitution, qui lui permet d'élargir ses cadres et d'admettre dans son sein les dentistes canadiens-français de la Province de Québec.

Nous avons cru que la faible distance qui vous sépare de Montréal ne vous empêcherait pas de vous rendre aux réunions de la Société Dentaire, qui ont lieu les deuxièmes mercredis de chaque mois, de septembre à juin.

Nous croyons qu'il nous est inutile d'énumérer les multiples avantages de ces séances d'études, qui donnent aux dentistes l'opportunité d'entendre les maîtres de la science dentaire du Canada et des Etats-Unis et de se tenir au courant des progrès constants enregistrés par notre profession.

Les résultats obtenus par nos confrères américains et anglais devraient nous in-

citer à augmenter sans cesse les connaissances acquises à l'Université et à perfectionner un art, qui, à cause de sa jeunesse relative, subit des améliorations constantes.

Nous vous soumettons la liste des activités de la Société Dentaire de Montréal pour l'année 1936-37.

11 septembre—"Un traitement chirurgical de la pyorrhée", par le Docteur Jules Thébaud, doyen de la Faculté Dentaire d'Haïti.

23 octobre—"L'Importance de l'examen cutané dans le diagnostic des maladies de la bouche", par le Docteur Antonio Sabetta, attaché à la faculté de médecine de l'U. de M. et au département de dermatologie de l'Hôpital Notre-Dame.

13 novembre—"Dentistes, gagnez-vous votre vie?" par le Docteur Conrad Godin, diplômé des Universités de Montréal et de Toronto.

9 décembre—"Partial Denture Prosthesis", par le Dr. R. J. Godfrey, professeur de prothèse dentaire à l'Université de Toronto.

13 janvier—"Some phases of Prosthetic Dentistry", par le Docteur Victor Jekill de Montréal.

10 février—"Considérations sur les principales affections buccales", par le Docteur Théo. Côté, professeur titulaire de matière médicale à la faculté de Chirurgie Dentaire de l'U. de M.

10 mars—"Chirurgie Buccale", par le Docteur Jules Tétrault, diplômé des Universités de Montréal et de Paris.

14 avril—"Traitement de la Pyorrhée", par le Docteur A. D. Milot.

12 mai—"Séance ouverte, où seront discutées des questions que nous ont proposées nos membres au sujet de cas personnels de leur pratique.

Nous joignons à notre lettre une formule d'application que vous retournerez, si ces activités scientifiques vous intéressent.

Bien à vous,

Gérard de Montigny, Sec.

P.S.—La Société Dentaire de Montréal fait maintenant partie de l'ACFAS (Association canadienne-français pour l'avancement des sciences).

**L**E CONFERENCIER de la séance du mois de janvier était le Dr. Victor Jekill de Montréal, qui avait intitulé sa communication "Quelques aspects de la prothèse dentaire".

Le Dr. Jekill, pour abréger son travail, fit une causerie à bâtons rompus sur la prothèse envisagée par un praticien de dentisterie générale et non par un spécialiste.

Il touche en particulier à trois points, qui se rapportent à son sujet:

1) Les relations qui existent entre l'articulation des dents et la pathologie de

l'articulation temporo-mandibulaire.

Il existe un grand nombre de névralgies d'origine obscure, qui se manifestent en maux de tête, maux d'oreilles, surdité temporaire et partielle, tic douloureux, étourdissements, craquements de la mâchoire, sinusite apparente, brûlements du palais et de la langue, douleurs névralgiques cutanées de la face et du cou et qui proviennent de malocclusion et d'articulation trop serrée.

La littérature médicale et dentaire rapporte plusieurs de ces cas sans étiologie bien déterminée qui furent soulagés en corrigeant et en élevant l'articulation, de manière à améliorer les relations du condyle et de la fosse glénoïde.

2) Maintien et conservation des dents antéro-inférieures avec l'usage d'un dentier partiel armé de l'appareil de rétention Dubar.

Selon le Dr. Jekill, le problème du dentier complet inférieur n'est pas encore réglé d'une façon satisfaisante tant pour le dentiste que pour le patient.

C'est pourquoi, on doit autant que possible conserver les dents inférieures dans leur intégrité.

Les cas les plus fréquents de dentiers partiels inférieurs rencontrés dans nos bureaux exigent le remplacement des molaires des deux côtés et bien souvent aussi des deux 2<sup>e</sup> prémolaires.

L'appareil Dubar est spécialement destiné à ce genre de restitution et tout en procurant le maximum de confort au patient, il exerce sur les dents de soutien que le minimum d'effort et de pression.

Le Dr. Jekill explique en détail la technique de l'appareil Dubar.

3) Emploi du pont "Dupontic" pour obtenir une quasi perfection sanitaire et esthétique.

Le pont "Dupontic" unit les qualités hygiéniques de la selle en porcelaine à la beauté esthétique de la surface occlusale en porcelaine. Un des attraits de cette restauration est le confort que le patient

éprouve à ne sentir au toucher de sa langue qu'une surface douce et glacée.

Le conférencier démontre à l'assistance sa méthode pour fabriquer le pont "Du-pontic" et illustre ses exposés à l'aide de transparents et de modèles.

Le Dr. A. Bélair, vice-président de la Société, était chargé de présenter le conférencier et le Dr J. L. Lantier offrit les remerciements d'usage. Tous deux remplirent leur fonction avec bonheur et tact.

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## *Suggestions Pratiques*

**V**OS instruments dentaires seraient-ils assez stérilisés pour permettre une intervention chirurgicale dans votre bouche?

Si vous aviez à examiner vos dents le feriez-vous avec un plus grand soin que vous ne le faites journellement?

Seriez-vous satisfait d'avoir une prophylaxie comme celle exécutée dans la bouche de vos patients?

Consentiriez-vous à vous faire préparer une cavité avec des fraises émoussées.

Vous feriez-vous obturer une dent dont la carie serait à moitié enlevée?

A toutes ces questions réponderiez-vous affirmativement?

Si non! Pourquoi n'exerceriez-vous pas votre profession comme elle devrait l'être.

Puisque tout travail dentaire est un service rendu à nos semblables, nous nous efforcerons à le bien faire pour l'honneur de notre profession et le bien-être de nos patients.

### *PLATRE:*

Pour que le plâtre se désagrège dans l'eau bouillante, il suffit d'ajouter à quatre parties de plâtre une partie de poudre de riz. (volume). Ce matériel est utile seulement dans la prise d'empreinte d'un pont ou d'une couronne.

### *PAPIER:*

Le papier buvard, ayant un pouvoir absorbant dix fois supérieur au coton hydrophile, se recommande de lui-même pour assécher les canaux radiculaires et les cavités. Il est vendu prêt à être utilisé.

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## *Le Coin des Questions*

**N**OUS inaugurons une page qui sera consacrée aux problèmes de pratique personnelle.

Nous prions les dentistes, qui auraient des cas de pratique compliqués et qui aimeraient connaître l'opinion de confrères, sur le sujet, de nous adresser leurs questions, en donnant tous les détails qui s'y rapportent, comme les histoires des cas, les radiographies, des modèles d'étude, etc.

Nous publierons dans cette page ces questions et les diverses solutions sug-

gérées par des confrères.

### *1ère Question*

Quelles classes de patients réagissent mal à l'anesthésie locale, faite à l'aide d'une solution de procaïne et d'épinéphrine. Pourquoi? Quelles précautions faut-il prendre quand ces cas se présentent?

### *2ème Question*

Quel est le traitement le plus effectif pour soulager une alvéolite (dry socket)?

*Trifluvien.*



## Prayer for Physicians, by Maimonides\*



O God, Thou hast formed the body of man with infinite goodness; Thou hast united in him innumerable forces incessantly at work like so many instruments, so as to preserve in its entirety this beautiful house containing his immortal soul, and these forces act with all the order, concord, and harmony imaginable. But if weakness or violent passion disturb this harmony, these forces act against one another and the body returns to the dust whence it came. Thou sendest then to man Thy messengers, the diseases which announce the approach of danger, and bid him prepare to overcome them. The Eternal Providence has appointed me to watch o'er the life and health of Thy creatures. May the love of my art actuate me at all times, may neither avarice, nor miserliness, nor the thirst for glory or a great reputation engage my mind; for, enemies of truth and philanthropy, they could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children. Endow me with strength of heart and mind, so that both may be ready to serve the rich and the poor, the good and the wicked, friend and enemy, and that I may never see in the patient anything else but a fellow creature in pain.

If physicians more learned than I wish to counsel me, inspire me with confidence in and obedience toward the recognition of them, for the study of the science is great. It is not given to one alone to see all that others see. May I be moderate in everything except in the knowledge of this science; so far as it is concerned, may I be insatiable; grant me the strength and opportunity always to correct what I have acquired, always to extend its domain; for knowledge is boundless and the spirit of man can also extend infinitely, daily to enrich itself with new acquirements. Today he can discover his errors of yesterday, and tomorrow he may obtain new light on what he thinks himself sure of today.

O God, Thou hast appointed me to watch o'er the life and death of Thy creatures; here am I ready for my vocation.—*From Medical Times.*

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\*Born 1135, died 1204.



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Winnipeg, Manitoba.

Past-President of the Canadian Dental Association, the Dominion Dental Council and the Manitoba Dental Association.

Member of the Board of Directors of the Manitoba Dental Association and representative on the Dominion Dental Council for twenty years.

Judge of Fine Arts and Handicraft, Provincial Exhibition, for twenty years.

Organist and Choirmaster, St. Michael's Anglican Church for twenty-five years.

Holder of medal for original water colours.

At present in his fifty-second year of active dental practice.

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## Pulpotomy—Its Place in Modern Dentistry

by JOHN OPPIE McCALL, D.D.S.

*Director, The Murry and Leonie Guggenheim Dental Clinic, New York, N.Y.*

THE exposure of the dental pulp whether by accident or by the encroachment of caries has long been recognized as a major dental catastrophe. When uncared for this incident always eventuates in pulp infection and in most cases pulp death, with local and systemic consequences too well known to dentists to need recapitulation. The efforts of dentists to cope with the situation which develops with pulp exposure have ranged through pulp capping, pulp mummification, pulp extirpation with pulp canal filling and operations known both as pulpotomy and pulp amputation.

As we survey this subject it is evident on slight reflection that our approach toward the problem of the exposed vital dental pulp is greatly influenced by past failures in this field and that we have set up for ourselves certain inhibitions that are founded on early failures and on a lack of understanding of the physiology of the pulp and its mode of reaction to bacterial infection. On this account there has been insufficient experimentation in

the field of therapy designed to preserve vitality of such portions of the pulp as might conceivably respond to treatment. We have, in other words, too readily accepted the earlier unwritten dogma that once the pulp chamber is invaded, the pulp will inevitably lose its vitality and that under such circumstances complete pulp extirpation is required.\*

There can be no exception taken to the statement, often made, that the best root canal filling is a healthy vital pulp. The only occasion on which we may logically desire to extirpate a vital healthy pulp is when we need to gain access to the pulp canal for the placement of a dowel for a crown or other restoration.

When we study the sequence of events following the deep penetration of caries in the tooth crown, we find first, as admirably shown by Kronfeld\*\*, pulp reaction to the advancing caries, with evident bacterial penetration through dentinal tabuli even before decalcification has taken place.

With arrival of frank caries at the

\*It is understood that, when advanced pulp infection or pulp necrosis has occurred, the complete removal of remaining pulp tissue and cleansing of the canal is a prerequisite for proper pulp canal therapy.

\*\*Histopathology of the Teeth and Their Surrounding Structures, Rudolf Kronfeld, M.D., Lea & Febiger, 1933.

pulp periphery the reaction becomes more violent and the area of inflammatory reaction and round cell infiltration spreads out well into the coronal or bulbous portion of the pulp. We thus see that, even at the moment of pulp exposure by caries, this organ has already been quite deeply invaded by bacteria. Is it any wonder, then, that pulp capping operations in such cases have so commonly failed in the past? The wonder is, rather, that they ever succeed.

On the other hand, study of the histopathology of the pulp in these cases reveals an interesting and significant fact, viz., that the inflammatory reaction is for some time confined to the coronal portion of the pulp and that the pulp tissue in the canal shows no evidence of hyperemia or inflammation.] While bacteria may have penetrated into the canal portion of the pulp, they have as yet produced no tissue reaction. Theoretically, then, the chances for the survival of the root portion of the pulp is excellent if the more heavily infected coronal portion can be removed without severe traumatism and without introducing more infection into the remaining pulp tissue. Involved in this also is the placing of a bland and preferably antiseptic dressing in contact with the pulp stump. The possibilities of healing of the pulp following injury have been well shown by Box\* and should be capable of being invoked in favourable cases.

The thought of conservative pulp treatment is, of course, not new. Pulpotomy has been practiced in Europe for years. American dentists, however, have rejected the European method which calls for devitalization with arsenic and the dressing of the pulp stump with a paste containing a rather high percentage of paraformaldehyde. Such a method in-

volves departure from our stated ideal of a vital healthy pulp in the pulp canal. That this method often achieves quiescence does not necessarily mark it as satisfactory from the health standpoint.

At the Guggenheim Dental Clinic, experimentation in pulpotomy has been carried on for several years and a procedure has gradually been evolved that has given better than 65 per cent success in cases treated. This procedure is applied both to teeth with carious exposure (carefully selected as indicated below) and to cases of accidental exposure through tooth fracture. It is applied to both deciduous and permanent teeth. The procedure for a carious teeth, as given below, is quoted from the "Manual of Clinic Procedures" in use at the Guggenheim Clinic.

After the carious dentine has been removed, the Supervisor determines whether pulpotomy shall be performed. The indications for pulpotomy are: pin point exposure, clean white dentine around point of exposure, bright pink colour of exposed pulp, and no history of toothache. If unsuitable for pulpotomy, the tooth is to be extracted, unless it is one of the permanent incisors, in which case it is to be referred for pulp canal therapy. If no immediate pulp operation is to be performed, the operator places a pellet of cotton moistened with eugenol over the point of exposure and seals the cavity with zinc oxide and eugenol. When pulpotomy is to be performed the tooth is anaesthetized by block or infiltration anaesthesia. When the tooth has been anaesthetized, rubber dam is applied and the tooth and dam are sterilized with an iodine swab, followed by alcohol. The assistant will set up the bracket table with a sterile

\*Histological and Histo-pathological Studies of the Dental Pulp, Harold Keith Box, D.D.S., Ph.D., F.A.A.P.; Canadian Dental Research Foundation, Toronto.



towel and supplies for the operation. The operator after scrubbing up, opens the tooth, using sterile instruments. The pulp chamber is to be opened to its full diameter, and the pulp is removed from the chamber, but not from the canal, with a sterile, large round bur. The pulp chamber is swabbed out with sterile, distilled water. It is then dried with sterile cotton and wiped out with campho-phenique. A dressing of eugenol is placed in the chamber and the tooth is sealed with zinc oxide and eugenol.

At the next appointment, which should be not less than one week, nor more than two weeks later, the rubber dam is applied, and the tooth and dam are sterilized as before. The assistant will set up the bracket table with sterile instruments. The operator scrubs up and removes the dressing with sterile burs. The pulp chamber is again wiped out with campho-phenique on sterile cotton and dried with sterile cotton. The pulp chamber is then filled with special zinc oxide and eugenol cement, the zinc oxide powder having one per cent paraformaldehyde incorporated. The mix is made thin so that it can be applied without pressure. It must, however, be carried to contact with the pulp tissue in the canals. Over this is placed a mix of oxyphosphate cement, also thin, to avoid pressure on the zinc oxide and eugenol. After this is set, the cavity is filled with amalgam in the usual way; if an anterior tooth, silicate cement is used instead of amalgam. A radiograph is taken at the conclusion of this appointment to determine whether the pulp chamber has been properly filled.

The important points in the procedure are:

*First.* The selection of the case. Only those cases in which exposure by caries is recent, as indicated by its small size,

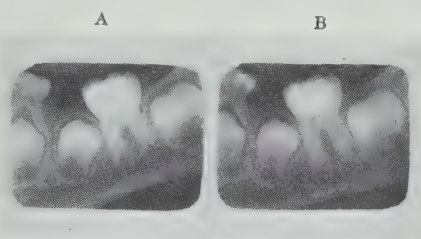


Fig. 1. Lower right first permanent molar.  
A. Pulpotomy performed 11/20/35. Age 8. Apical foramina not fully developed.  
B. Same tooth one year later. Note that apical foramina are nearly closed.

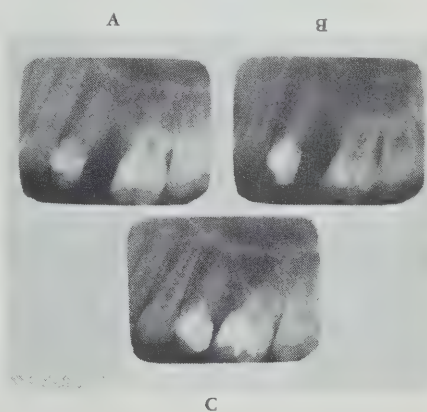


Fig. 2. Upper right first bicuspid.  
A. Preliminary radiograph, taken 10/25/35, shows satisfactory periapical condition. Age 11.  
B. & C. Radiographs taken one month and one year later show periapical condition still apparently normal.

normal hemorrhage and good colour of dentine, have any chance of success. Incidentally, *all* carious dentine is removed before a decision is made.

*Second.* Infiltration or block, *not* pressure, anaesthesia is used.

*Third.* An actually aseptic technique is carried out. Burs and other implements are dipped in alcohol and flamed before being used. Cotton is handled in a sterile packet.

*Fourth.* The pulp chamber dressing placed at the second sitting is actively antiseptic but is not irritating to the pulp

In addition, it should be noted that special pains must be taken to avoid traumatogenic occlusion on the tooth during and after the operation. If the cusps are long and pointed, it is well to shorten them and round them over, perhaps doing the same to the cusps of the opposing tooth.

This operation may be performed with equal satisfaction in both deciduous and

permanent teeth. It is not claimed that the procedure as described is the best that can be devised. It will probably be improved upon. It is believed, however, that the principle of the operation is sound and that, in years to come, a large number of teeth now condemned to be either devitalized or extracted may be treated in this manner with great benefit to the patients thus served.

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## *The Prevention of Dental Caries \**

by RUSSELL W. BUNTING, Ann Arbor, Michigan, U.S.A.

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**Y**OUR Chairman has asked me to discuss with you to-night what is known about the cause and control of decay of the teeth. In doing so, I am mindful of the fact that during recent years you have heard much of this subject. In our professional journals, over the radio, and in the newspapers and popular magazines much information has been forthcoming as to the means of preventing dental disease. You have heard that decay of the teeth may be prevented by eating oranges and lemons, or by drinking irradiated milk, or by taking calcium and phosphorus compounds or viosterol and cod liver oil, or by increasing green vegetables in the diet, and by many other dietary prescriptions. It is not surprising that to most of you the various contradictory statements which you have heard have been very confusing. Certainly all of them cannot be true. In fact, it is difficult even for the students of the problem to distinguish between the true and the false concepts that continually are being foisted upon a long suffering and not too credulous public.

Perhaps some of you have tried out

one or the other of these suggested dietary programs on children in your practices or in your own family and have been sadly disappointed by the appearance of cavities in the teeth in spite of all your conscientious efforts to avoid them. For all such persons an attitude of doubt and skepticism toward any suggestions which I may have to offer for the control of the disease, is quite understandable. What I shall say, however, is based on a six-year intensive study of the problem in the University of Michigan which was conducted by a group of scientists under the auspices of the Children's Fund of Michigan and the Rackham Foundation and is still in progress. The objectives of this research were to determine the basic fundamental truths regarding the cause and nature of the disease and, in the light of these facts, to determine the validity of the various proposed means of its prevention. The findings of this group have definitely negated practically all the greatly publicized dietary methods of caries prevention. They have, however, brought to light a newer concept of the disease and have

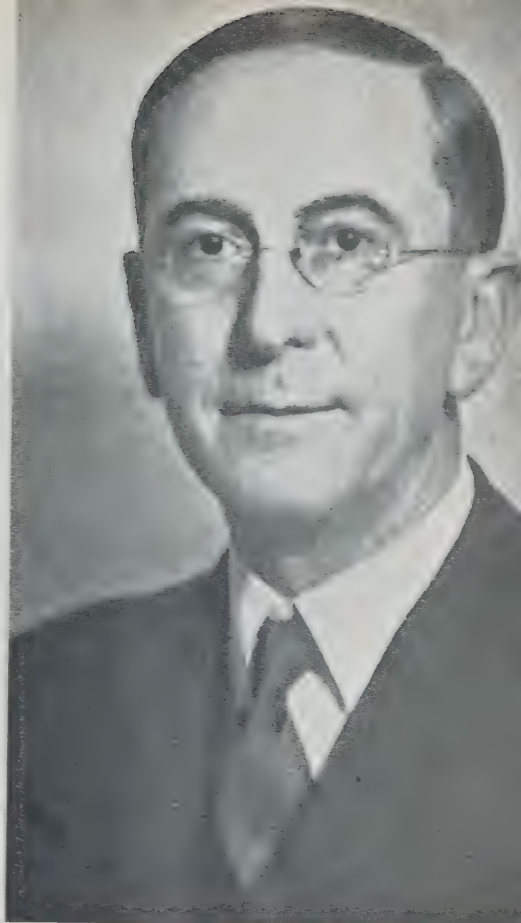
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\*Presented to Hamilton Dental Society, December 15, 1936.

resurrected an old, old theory which, once discarded, has now been brought into considerable prominence.

If dental caries were a malignant disease terminating in the death of the individual, we would not be here to-night. Practically the entire population of the civilized world would be wiped out within the span of a single decade. All that would remain would be about five per cent of civilized mankind, who seemingly are immune to the disease, and the inhabitants of uncivilized countries who are notably free from it. But this scourge of civilization is not malignant. It does not kill, but it does cripple and incapacitate a large proportion of people. It has very far-reaching effects in general as well as in dental health. When we consider the aggregate amount of pain and discomfort that arises from all the aching teeth, the injury and loss of teeth, the resultant loss of function, and disfigurement of personal appearance, the deep-seated infections which gain entrance through open cavities to the ends of the roots of teeth and thence to the general circulation, to say nothing of the tremendous economic load of loss of time and the dental repair that fully occupies the services of 70,000 dentists in Canada and the United States and requires a considerable part of the individual budget of people to pay for, we realize in part the significance of the disease and the benefits to mankind if means of its prevention were provided.

We know that dental caries is a progressive destruction of the tooth by an external agency, namely, acids which are formed and localized in certain portions of the enamel. It does not originate within the tooth. As a rule, the locations of caries are pits and fissures of the occlusal surfaces, between the teeth, or at the crevices of the teeth near the gum line. Each of these are places at which stagnation of food commonly occurs.



R. W. BUNTING

Caries never takes place on a continuously clean surface of the tooth. The acids do not originate in the saliva but are formed by certain types of bacteria acting on carbohydrates, beneath films or plaques on these protected and unclean tooth surfaces.

You may then ask why do some teeth decay and others do not. Why do some people have so much dental disease and others are free from it. Is it because one mouth is cleaner than another? Can decay of the teeth be prevented by thorough mouth cleanliness? Are some teeth harder than others and can decay be prevented by making the teeth more resistant?

In answer to the questions regarding the importance of cleanliness, it may be said that a clean tooth will never decay. In the human mouth, however, the teeth



are never clean. The shapes and arrangement of human teeth offer many places and opportunities for stagnation of food and localized fermentation on or between the teeth, even in the cleanest mouths. In animals the teeth are so shaped that all surfaces are automatically cleansed by mastication; animals, as a rule, do not have dental caries nor do they need to brush their teeth. In the human, cleansing of the teeth is necessary and will decrease and limit the extent of caries, but may not absolutely prevent its occurrence. Too often we see apparently clean mouths with rapid dental caries and, conversely, the dirtiest mouth may be entirely free from it. Although cleanliness may be relatively inhibitive of caries, there is some other factor which is more potent and which, irrespective of the state of oral hygiene, determines its occurrence.

The question of the resistance of the tooth is the basis of practically all the dietary experimentation and recommendations commonly made for the control of the disease. On the assumption that hard teeth do not decay and that caries may be prevented by the improvement of tooth structure, various dietary programs have been suggested directed toward the increasing of the resistance of the tooth to caries. These dietary regulations consist of increasing the intake of calcium and phosphorus as building materials of strong teeth and an increase of the activators of inorganic salt metabolism, such as viosterol, irradiated milk and cod liver oil. Unquestionably, during the period of tooth development, the furnishing of those materials necessary for good bone and tooth formation is fully justified. There is, however, no adequate scientific proof that the feeding of any or all of these dietary principles has any practical value as a preventive of dental caries.

Those who have no dental caries have no more calcium or phosphorus in their

blood or saliva than those who are severely affected by the disease. Nor do they eat more inorganic salt or vitamin D bearing compounds. Children in the South who have plenty of vitamin D in the abundant sunshine have no rickets, but they have just as much dental disease as do those in the North where rickets is common.

As an experiment we fed 75 school children a daily dose of viosterol in tomato juice together with a quart of milk over a period of nine months, all this in addition to their regular home diets. At the end of the period these children had practically as much dental caries as did a similar control group which had not received these dietary supplements.

Over a period of seven years we have observed in an orphanage a group of three hundred children who are almost wholly free from dental decay. These children have lived for many years on a diet that is below the minimum standard requirement for calcium, phosphorus, and vitamin D. They have had no viosterol or cod liver oil. They are in good health and their teeth do not decay. Certainly the freedom of these children from dental disease could not be attributed to the excellence of their diet.

If dental caries is determined by the degree of vital resistance of the tooth against it, would it not be reasonable to expect that pulpless teeth would be much more prone to decay than vital teeth? When the pulp is removed there is no possible way by which the enamel of the tooth can receive vital nutritive support from the circulation. Do teeth then decay more readily after the loss of the pulp? Clinically this does not appear to be true. Among the thousands of cases in our University clinic we found very few instances of new caries occurring in teeth after the death of the pulp. In fact, there was evidence to indicate that pulpless



teeth decay less readily than those which are vital.

Finally and most significant is the fact that hard, well formed teeth may decay and soft, poorly formed teeth frequently last through life untouched by dental caries. No tooth was ever made that was hard enough to withstand the forces of caries if they were active in the mouth. No tooth ever decayed solely because it was soft. Therefore, like cleanliness, the structure of the tooth may influence the rate and extent of the caries process but does not determine the disease. This is accomplished by some other factor which is more potent and which, irrespective of the hardness or softness of the tooth, initiates the caries process. The hope of controlling dental caries through dietary regulations, by building teeth strong enough to withstand caries, is, in our opinion, wholly unwarranted.

What, then, does determine the occurrence of dental caries? In our search for an answer to this question we have studied large numbers of individuals who have dental caries and others who are free from the disease. We have looked for some constant differential between these two groups which might prove to be the determining factor. Chemical analyses of the bloods and salivas have been made for every possible factor which might be involved, but as yet no chemical differences have been found which are constantly related to the activity of dental caries. The same is true of the dietary intakes, no significant differences being found. In the field of bacteriology, however, the situation is quite different. In the investigation of the environment of the teeth it was found that when caries is active a specific type of bacteria is invariably present and when there is no dental caries, this organism is wholly absent from the mouth or is present only in small numbers or appears sporadically. The organism most constantly associated

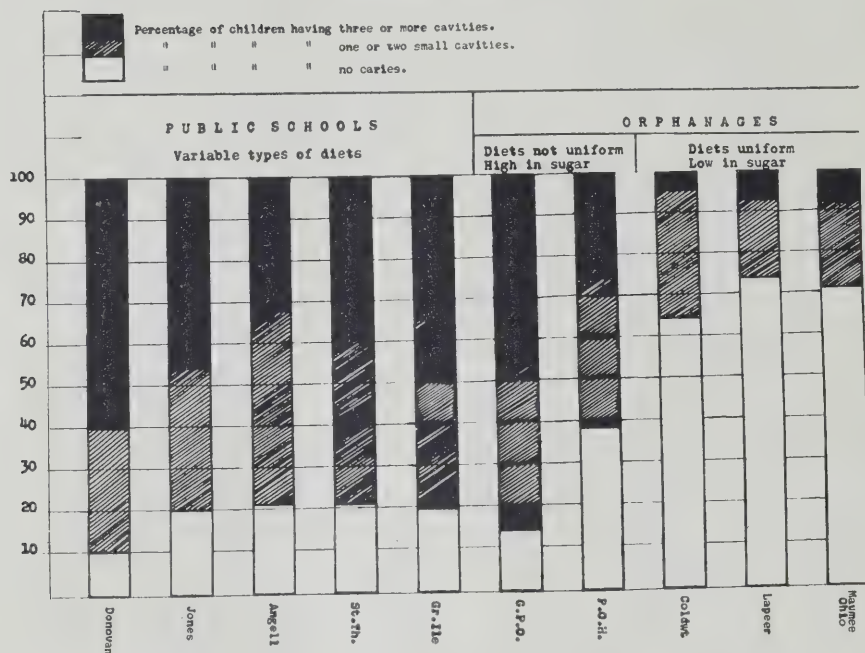
with dental caries is *Lactobacillus acidophilus*. In a study of thousands of cases over a period of several years a direct relationship between the degree of active growth of this organism in the mouth and the activity of dental caries has been established. This correlation is not absolute, but is about 90%, which is higher than exists in many other known bacterial diseases. For some reason this organism will not grow in some people's mouths even though it is implanted there repeatedly. Such individuals have no dental decay. Conversely, when dental caries is very active the bacterial counts of *L. acidophilus* are exceedingly high. So definite is this relationship that the degree of caries activity may be quite definitely determined by quantitative bacterial estimations of *L. acidophilus* in the mouth.

In view of these facts and other evidences which have been demonstrated, it becomes apparent that dental caries is a specific bacterial disease and that the specific organism involved is *L. acidophilus*. This organism acting on carbohydrates in contact with the teeth forms acids which dissolve the enamel and produce a cavity. This is the only factor having any high degree of correlation with the disease that has thus far been discovered.

You may then ask, if this is a bacterial disease why can it not be cured by hygienic measures and the use of antiseptics. As we have previously said, caries of the teeth may be reduced by hygiene but there are no means of cleansing or no drugs that will eradicate all of these organisms from all of the hidden and protected places in the mouth. Many attempts have been made but as yet dental caries has not been prevented on any large scale or with any high degree of success, by any form of mouth hygiene or antiseptic.

The question then arises, is there any way in which the bacteria responsible for dental caries may be eliminated from the

ACTIVITY OF DENTAL CARIES IN TEN GROUPS OF CHILDREN  
DURING PERIOD OF ONE YEAR



mouth for the control of the disease? This has been the object of our study for several years. As yet we have found only one successful method and that is the elimination of sugar from the diet. That dental decay is caused by the over-consumption of sugar is an old idea once commonly held, but more recently disregarded. In carefully controlled experiments which we have conducted on children we have found that the feeding or withholding of sugar in the diet has a very definite effect on the growth of *L. acidophilus* in the mouth and the activity of dental caries. In groups of children fed on diets that were either adequate or inadequate nutritionally, if sugar was eliminated oral *L. acidophilus* was diminished and dental caries was arrested in approximately 90% of individuals. Ten per cent of them or thereabouts would have some dental disease on a low sugar diet, but the virulence of the process would

be quite moderate. In them it is necessary to eliminate all starch, as in a diabetic diet, to eradicate the *L. acidophilus* and prevent dental caries. About 5 per cent of people are naturally immune to the disease and they may eat all the sugar they desire and still there will be no caries-forming bacteria or dental decay in their mouths. In the remaining 85 to 90 per cent of people the growth of *L. acidophilus* in the mouth is directly influenced by the amount of sugar ingested. If it is withheld, the bacterial count drops and caries stops. If sugar is increased, the counts rise and caries again becomes active. This we have demonstrated on many individuals and in large groups of children.

Some day we hope that we may discover some more agreeable method of controlling this caries infection. The idea of depriving children of candy is not very enthusiastically received, either

## *The Prevention of Dental Caries*

by the children or their grandparents. Nevertheless, it is the only effective dietary means of controlling decay of the teeth which we know at the present time.

The detection and filling of cavities when they are extremely small is a practical method of controlling decay of the teeth. If it is properly done, the growth of the cavity is arrested and the tooth is protected from further injury at that point. In this respect the control of dental caries is somewhat similar to the control of cancer—complete extirpation of the lesion in the early stages is the most successful treatment. In caries of the tooth healing cannot take place to fill the cavity, but resistant filling materials may restore the form of the tooth and prevent further extension of the destructive process. The filling of cavities also definitely improves oral hygiene and decreases the rate of new cavity formation. Early treatment of cavities while they are small is therefore a most practical form of caries control.

Since dental caries is most prominent and active during childhood the prevention of that disease is an important child health problem. It is during childhood that the greatest care should be given to limit the disease and to protect the individual against its harmful effects. Since at the present time we have no method of immunization against dental decay, we must utilize for the protection of children all the measures of prevention and control which seem to be effective. These consist of the following:

First, all those measures of oral hygiene which will tend to keep the teeth clean. The toothbrush and a suitable dentifrice when frequently and thorough-

ly applied are unquestionably beneficial. The chewing of hard and fibrous foods and the eating of acid and tart fruits aid greatly in the automatic cleansing of the teeth. Regular prophylactic treatments by a dentist or hygienist are most effective in the maintenance of oral hygiene. These measures undoubtedly reduce the caries infection in the mouth and decrease the activity of the disease.

Second, frequent examinations to discover all cavities which have appeared and prompt attention by the dentist to fill them while they are still small, when they may be easily arrested.

Third, throughout childhood an adequate diet should be fed for the sake of normal nutrition and metabolism and, incidentally, to build good teeth and bones. Not that an adequate diet will guarantee normal bone and tooth formation, but it is one of the factors of normal development that is highly important. For the sake of the structure and proper development of the teeth, feed the child a good diet, but for the sake of preventing dental caries, cut out the sugar. This includes sugar on the table, sugar on cereals and in beverages, highly sweetened foods and candy in all forms. Depriving a child of sweets will do him no harm as they are not needed for adequate nutrition. If they are withheld from the diet from earliest infancy throughout childhood, the child will not crave sweets. With very few exceptions, children so raised are remarkably free from *L. acidophilus* in the mouth and have little or no decay of their teeth. The continuous withholding of sugar from the diet of the child is the most effective means of preventing decay of the teeth known today.

# Supporting Palatine Prosthesis Contingent to the Removal of Benign Tumours of the Palate\*

by J. N. ROY, F.A.C.S.

*Professor at the University of Montreal, Chief of Service at Notre-Dame Hospital,  
Laureate of the Academy of Medicine of Paris.*

OF all authors who describe the treatment of benign palatine tumours, some advise the removal by means of an incision, and then suturing of the wound; others prefer simply to let the wound heal by granulation without coaptation after the operation. Nowadays the surgeons are forced to admit, especially since the Great War, that in the presence of a fracture of the maxillae, we must have recourse to collaboration with a dentist for a prosthesis, in order to obtain the best possible results. Inspired by this fact, and having experimented, in many instances, while chief-of-service to the military hospitals of St. Cloud and of St. Ouen, France, where from 1915 to 1918 I treated numerous maxillo-facial wounds, I thought that this same collaboration should exist after the removal of benign tumours of the palate. Indeed, if we practise a median incision, over the neoplasm, and after having taken it away we suture the lips of the section, there forcibly remains an empty space which becomes full of blood. Because of the fact that there exists a considerable microbial flora in the mouth, the slightest infection of the operative field may terminate in suppuration of the haematoma.

If, on the contrary, the removal of the tumour is made after incision without consecutive sutures, the wound infects itself, and the cicatrization is forcibly produced very slowly. Also, during this

lapse of time, the patient is submitted to numerous inconveniences.

I consider that the practise of making two elliptic incisions at the base of the neoplasm, and removing it with its covering tissue, is not worthy of modern surgery, and should never be employed.

The combined technique that I preconise has for its object the removal of the tumour after a median incision; the coaptation by two or three sutures; and then applying a supporting palatine prosthesis. It is easy to conceive that this process offers the best prognosis for a rapid cure, without inconvenience to the patient. This further observation is given in support of this new method.

## CASE REPORT

Mr. P. R., aged 23 years, was sent to me with a small tumour in the roof of the mouth. He relates that about a year ago, the right side of his palate started to increase in volume. He never received any traumatism of the mouth. Two physicians consulted, before coming to me, practised tappings which produced no results. During this period, the only treatment had consisted in antiseptic gargles.

On examination of the mouth, I observed an oblong tumour of about three centimetres in length, and two and one-half centimetres in width, the center of which was opposite the upper right

\*Read before the "Congrès de l'Association des Médecins de Langue Française de l'Amérique du Nord", Montréal, 7-10 Sept., 1936.



second molar. It was in contact with this tooth, and terminated at the median raphe of the palatine vault. The tumour was renitent.

The tonsils and the rhino-pharynx were normal.

There existed a slight spur to the right of the septum.

In the presence of this neoplasm, I proposed an operation which was accepted. However, before the intervention I asked Dr. L. P. Reeves to make me a prosthesis, discounting in advance the normal anatomy of the palate after the removal of the tumour. My excellent friend consented to take charge of this delicate work, and furnished me with the following information:

"An impression of the palatine vault and teeth had been taken in compound, and a model was poured in coecal. This model reproduced a tumour invading the region between the upper right second molar, and the median line extending from the second bicuspid to the third molar on the same side. (See photograph No. 1.)

"The protuberance on the model was completely removed in order to show a normal palatine vault. A prosthetic piece in vulcanite covering this palatine vault was then constructed as if the tumour had never existed. This mobile prosthesis was made in one piece adapting itself to the palate, and was held in position by three chromium clasps encircling three teeth in order to secure stability. (See photograph No. 2.)

"A prosthesis of this type must be perfectly adapted to the tissues, without exercising any compression. The surgeon must discount that the piece will not prevent drainage which is always necessary after the operation. Four holes had therefore been drilled in the appliance opposite the tumour."

In possession of this prosthetic piece, I operated on the 21st of March, 1935.



Figure 1.  
*Benign Tumour of the Palate.*

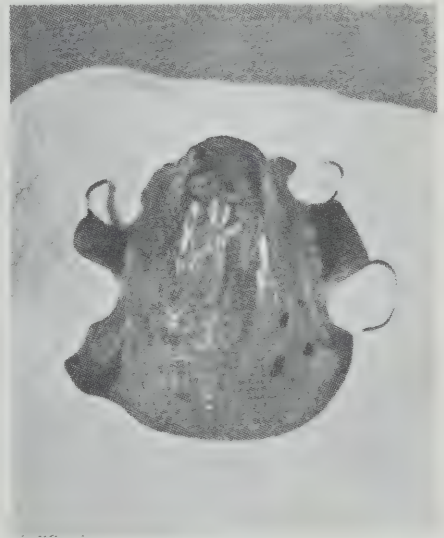


Figure 2.  
*Supporting Palatine Prosthesis.*

#### OPERATION

Local anaesthesia with novocain-adrenalin. Incision of three centimetres over the middle part of the tumour, parallel

to the superior dental arcade to the right. The removal of the neoplasm was particularly easy, on account of the fact that I could cleave it without any appreciable hemorrhage. I applied two silk sutures over the lips of the incision, to maintain the coaptation, and immediately afterwards placed the prosthesis which fitted the palatine vault perfectly. The three clasps encircling the three teeth maintain it in a good apposition.

Post-operative treatment was very simple, the prosthesis being removed from time to time in order to maintain the asepsis of the mouth by means of rinsings. From the fourth day, the incision was so solid that I removed the stitches, counting on the prosthesis for future support. The patient left the hospital perfectly cured at the end of eight days. He was seen again seventeen months later. The cure remained permanent, and the operative cicatrix was hardly perceptible.<sup>(1)</sup>

Dr. Simard, who made the anatomopathological examination of the neoplasm, gave me the following report:

"The tumour is largely necrotic and dissociated in its center. The living peripheral tissues are of an epithelial and conjunctival nature.

"The epithelial elements sometimes form glanduliform tubes heaped up the one against the other, at other times of characteristic malpighian strands with filaments of union. Here and there, in the center of some malpighian strands appear cavities surrounded by cubic or prismatic cells.

"The conjunctival element is represented by sclerous or fibro-hyalin islets in continuity sometimes with the epithelial formations.

"The histological image is one of a mixed tumour of a salivary gland."

There is nothing to add to this communication, which has for its object the pointing out of the importance of the collaboration with the dentist, for the construction of a well adapted prosthesis, previous to the removal of benign tumours of the palate. Though the neoplasm may be a mixed tumour of salivary gland, a neurinoma, or whatever other non-malignant neoformation, it is always true that an apparatus of support is indicated after an operation. If, instead of a benign tumour, we are dealing with a cancer, the line of treatment can be determined only after consultation with a radiologist to judge the advisability of x-rays or radium, associated with or without surgery.

With the apparatus which I preconise, it is easy to understand that after having removed the neoplasm,—whatsoever may be its volume—and having sutured the incision, the cure must necessarily follow under the best possible conditions. Indeed, the prosthesis has for its object the pushing of the dissected tissues towards the depth, and consequently to prevent the formation of a haematoma, to forestall infection, and finally to hasten the cure, all of which is much more difficult to obtain with any other operative methods.

(1) This patient was presented at Notre-Dame Hospital, at the time of the "Congrès de l'Association des Médecins de Langue Française de l'Amérique du Nord", the 10 Sept., 1936.

# Manipulation of Amalgam\*

by J. G. COGGAN, D.D.S., B.S.E., Detroit, Michigan.

THE production of a mass suitable for packing is the main consideration on which all instructions for the use of an alloy should be based. If an amalgam can be packed to make a tight filling, it appears obvious that strength and desirable dimensional changes are properties that it should possess. If the physical condition of the mass is not suitable for packing, a leaky filling will result and it is futile to attach much importance to other properties.<sup>1</sup>

Strength is no longer considered in our specifications<sup>2</sup>, but volume change and flow are important factors and very definite limits have been set up for them.

In the choice of an alloy any one of those meeting A.D.A. specification No. 1<sup>3</sup> is suitable if proper instructions are followed. A very carefully written procedure should be supplied with each package of alloy by the producer.

The mortar and pestle should be of the sand-blasted glass type in which the mortar has a cup-shaped or concave centre, and the pestle is designed to fit the mortar so that the alloy may be kept under it during trituration. Only in this way can we have thorough amalgamation of all particles of alloy with the mercury. The size of the mortar should depend on the amount of alloy to be mixed.

Very definite proportions of alloy and mercury, as given by the producer, should be used at all times. These can best be obtained by weighing. Any small balance will work very nicely. Different amounts for varying sized cavities may be weighed up at convenient times and stored in capsules of varying sizes. Devices that are

commonly used to proportion alloy and mercury by volume do not always give exactly the same amount.

In mixing, use a pen grasp of the pestle so that a rapid rate of rotation of 200 to 240 revolutions per minute may be obtained while exerting a medium pressure. Under these conditions and depending on the alloy and the quantity of alloy used, mixing is carried on for thirty-five to fifty seconds. Stirring should be continued just beyond the point where the amalgam is coherent enough to be turned into the hand. At this point the mix begins to appear brighter in colour, but is not pasty in appearance.

Transfer this mass to the hand and mull briskly under medium pressure at a rate of 110 to 125 revolutions per minute for about sixty seconds. With some alloys it may be necessary to express a little of the excess mercury during this operation if the mix becomes too sloppy. The amalgam is in a suitable state for packing when it can be rolled into a short rope about one-eighth inch in diameter that does not break and retains the fingerprints of the operator. No crepitus should be heard at this point as that is the sign of an over-mix.

In filling the cavity let us use the ordinary two surface or proximal occlusal type as the illustration. A small amount of amalgam is carried to the deepest part, which in this case is the cervical floor. The first increment is thoroughly tamped and then packed into all line and point angles by means of small (1 mm. or less) pluggers. Great care should be taken at this point because we most often see leak-

\*A brief digest of the author's section of a group clinic on Amalgam Restorations presented at the Twelfth Annual Fall Clinic of the Montreal Dental Club by the Plastic Section of the Detroit Clinic Club.

age occurring at the angle formed by the junction of the cervical floor with the buccal or lingual margins or along these margins. Incomplete packing or poor condensation may well be the cause of this leakage.

Additional increments of amalgam are carried into position and tamped, then packed into place. In stepping the plugger around the cavity in circles of increasing diameter from the centre outward, lap one-quarter of the preceding area covered by the plugger in each successive thrust.

Following the first few pieces of amalgam placed in the cavity, each succeeding piece added is gradually but increasingly made dryer by expressing mercury. As the filling is built up remove any excess mercury. At all times the surface of amalgam should be kept as level as possible. When the level of the pulpal floor is reached, the amalgam surface should include this area as well. The filling is gradually built up until the whole cavity is overfilled.

Especial care should be taken to contour the matrix in the region of the contact point in order that there is a tight contact with the adjacent tooth. A suitable wedge should always be used at the cervical to prevent any excess being packed into the interproximal areas. A packing pressure of eight to ten pounds on a 2 mm. plugger is the ideal of Dr. Ward.<sup>1</sup>

As for packing instruments, a size and shape suitable for the cavity should be used. Above all, they must be small enough to reach all small angles of the cavity. Large instruments are sure to leave uncondensed corners. It makes little difference whether they are serrated or non-serrated. The handle should be large enough in diameter to afford a good grip and eliminate all tendency toward wobbling.

Carving of anatomy in the filling

should be done as soon as possible after completion of packing. This will depend on the setting rate of the amalgam and on the amount of mercury left in the filling. Under ordinary conditions follow the contour of the remaining tooth structure in placing grooves and spillways. The marginal ridge should be even with that of the adjacent tooth in most cases.

After completing the anatomy, remove the cervical wedge and carefully tease the matrix from in between the teeth by using a jiggling motion and usually in a diagonal direction toward either the buccal or lingual depending on which seems easier. During this procedure it is well to support the marginal ridge. A plugger under which a small ball of cotton is placed in order to even up the pressure applied is probably one of the best methods.

Trim any remaining excess from the buccal and lingual walls and also check the cervical for any possible overhang. Never touch the contact point. Dismiss the patient for at least 24 hours.

On the return visit remove any "catches" with small inverted cone or flame shaped stones. Small paper discs with suitable grit will reach most of the occlusal surface while narrow strips will cover the interproximal surface. Again, however, do not touch the contact point. Next, polish with wet flour of pumice using rubber cups and small brushes. Finally, dry tin oxide may be used, if desired, to impart a high shine to the filling.

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1. Effects of Variations in Manipulation on Dimensional Changes, Crushing Strength and Flow of Amalgams. M. L. Ward and E. O. Scott. J.A.D.A., October, 1932.

2. Specifications and Certifications for Dental Materials. G. C. Paffenbarger and W. T. Sweeney. J.A.D.A., April, 1934.

3. Certified Amalgam Alloys: A.D.A. Specification No. 1. J.A.D.A., June, 1935.

*Henry Ford Hospital.*



# Hospital Technique for the Dentist

by JOHN W. CLAY, D.D.S., Calgary, Alberta.

ON more or less frequent occasions the dentist is called upon to leave his own familiar office and operating room, and visit the hospital. Here he must carry on some phases of his work under less convenient conditions. Moreover he is without all the conveniences and the trained help to which he is accustomed in his office.

I propose to deal only with generalities, and leave alone, as outside the sphere of this paper, the techniques of the operations which are from time to time performed, which would include the whole realm of dental surgery, as well as other branches of our profession.

At times the dentist finds it necessary to perform dental operations at the hospital under a variety of conditions, and on patients in varying degrees of ill health.

He may be called upon to treat a patient in the operating room under local or general anaesthesia, or for examination or treatment of various sorts without anaesthetics. Again he may find it necessary or desirable to work at the bedside under any of these conditions.

Dental hospital practice differs a great deal from office practice. It is well always to keep in mind three of these differences which are important.

1. Many patients in hospitals are in ill health or are there for fairly extensive operation. In these cases the general condition of the patient, pre-operative care, and his after treatment should be given special consideration.

2. Working conditions are different from those to which one is accustomed at the office. Thought must be given to arrangements of instruments, equipment

and lighting to attain the greatest efficiency.

3. Especially in the operating room all work is done under the scrutiny of nurses and doctors, who themselves follow a careful technique of sterile procedure. For the good of the patient and for the upholding of our claim to being dental surgeons, a careful technique of surgical cleanliness must be followed. Our aim should be to so do our work that no criticism of our operations from this standpoint is possible.

## VALUE OF HOSPITALIZATION OF PATIENTS

A word should be said about the value to dentists of sending to the hospital some cases which are often operated upon in the office. Ether anaesthesia should never be used in a dental office. In the first place the patient almost always needs a considerable amount of nursing care and after too short a time is sent out to find his way home, with risk of shock and hemorrhage, and infection due to lowered resistance and chill. Rest is extremely desirable following such an operation. The odour of ether and the commotion caused thereby, are wonderful practice destroyers.

Patients requiring a major, dental, surgical operation under block anaesthesia, especially those from out of town who would be staying at hotels or with friends, are much better sent to a hospital immediately after the work is done, or better still in some cases for the operation itself. Others with alveolar abscess, producing marked general disturbances, do much better under hospital care. In many such cases, we, as dentists, do not give

our patients the best treatment, in not, at least, advising a short stay in the hospital.

All that can be urged against this is that we save our patients a little money. In doing so we delay recovery, and take risks which are neither in the interests of our patients nor ourselves.

#### ADMISSION OF PATIENTS

Many hospitals will not accept patients except from medical members of their staffs, but the patient can always be admitted by arrangement with his physician. The type of accommodation desired should be discussed, and when necessary the operating room reserved.

With very rare exceptions, operations should be performed in the morning. This is the best time as far as the condition of the patient is concerned, and the only time when the dentist's visit for such a purpose is popular with the staff. Reservation of the operating room is made, if possible, the previous day, and the best results are obtained if the patient is admitted at a reasonably early hour the previous evening.

#### PREPARATION OF PATIENT

A word or two should be said about the preparation of the patient for general anaesthesia. The anaesthetist should be asked to order the necessary premedication and the staff will see that no food is taken by the patient in advance of the operation.

In local anaesthesia cases where the patient is in the hospital entirely under the dentist's care, one-eighth grain of codein compound a half hour before operation is in most cases very valuable. An important point is to arrange with the nurse in charge that the patient should have a light breakfast in advance with a good cup of coffee or tea. When the patient is under medical care a consultation with the physician in charge, as to premedication, the advisability of using

adrenalin with novocain, and the extent of the operation at one time is always advisable. When minor work such as the extraction of a tooth or two is done in the ward, under local anaesthesia, the same arrangements should be made.

#### OPERATING ROOM TECHNIQUE

The most frequent use of the hospital for dental work is the carrying out of an operation under a general anaesthetic in the operating room. A brief description of the technique followed may be of interest.

Preparedness in dentistry is as much a necessity as in war.

A complete outfit of instruments should always be taken to the hospital. When in doubt about extra equipment, always settle the doubt by taking it along. As we all know simple cases sometimes turn out to be the hardest, and it is very unfortunate to feel afterwards that for want of an elevator a root end was left.

Instruments can be carried very satisfactorily in the bag wrapped up in two or three parcels of towels, and they should be turned in for sterilization immediately on arrival so that no time may be lost. Two mouth gags are often of advantage.

As soon as the instruments are given in for sterilization and the anaesthetist has arrived, the patient should be sent for. Coat and vest and collar should be removed for comfort, sleeves rolled well above the elbows, and the hands carefully cleaned. During this process the arrival of the patient occurs, and it is well to go into the operating room and speak to him before the anaesthetist commences. Preparation of the hands and arms then continues.

Thorough scrubbing of the hands and arms to the elbows should be done with a brush from the solution jar. When doing work other than simple extractions a cap and mask is desirable, especially in

these cases in which a surgeon is doing other work at the same time. If for any reason the surgeon's work does not turn out as well as he expected he will be apt to feel the fault is due to lack of cleanliness on the part of the dentist.

It is interesting to know that scrub nurses at the hospital are trained to scrub the hands for ten minutes, measured by the clock. At some hospitals a five minute scrub is allowed for minor operations, but no distinction is made at others.

After the hands and fore arms are thoroughly scrubbed, and washed, no unsterilized articles should be touched. The hands should be held away from the body and above the level of the elbows, so that no run down of water to the hands from the elbow and upper arm may occur. A sterile towel will be found on top of the operating gown and the hands partly dried. The operating gown should be put on at once by the operator, and it will be tied for him.

Alcohol will be poured on the hands and rubbed in. A slight moisture left on the hands saves the skin. The alcohol should be rubbed off on a piece of sterile gauze or a sterile towel from the gown pack. The small powder ball which is with the gloves should be then well used, and the first glove pulled on without handling the outer surface. When both gloves are on, sterile gauze may be used to force the fingers well up to the ends of the rubber and the gloves are pulled over the ends of the gown sleeves, without touching the skin of the wrist with the gloved fingers.

The instruments may then be arranged for the greatest convenience. As soon as the anaesthetist announces that the patient is ready, a sterile sheet, which is very convenient to place instruments and gauze upon, is placed over the patient. Then the operator may begin his operation with the assurance that he will have minimized

after trouble for his patient, and that his interested audience will have a greater respect for his sense of surgical cleanliness, and for the profession which he represents.

What we need to develop is an instinct for surgical cleanliness.

A sufficient light to reach into the dark corners of the mouth is important. The flood lights on the ceiling are well focused, and moving the table a foot or two from the prepared position will often help to throw the light onto the upper or lower jaw to better advantage. A head light is also provided, and it is often convenient to have a nurse hold this to throw the light into a socket or other obscure corner. For careful examination, the cutting out of ceiling lights and directing the small light into the socket is often very helpful, as the view will then be clearer due to the contrast.

Sterile gauze packs for the throat are provided and it is always a good plan to use a large one, unfolding it so that an end remains hanging outside the corner of the mouth. In this way there is no chance of the pack being pushed into the pharynx and so, difficult to remove. The throat pack should always be well in place to prevent aspiration of foreign bodies and infected fluids.

In cases where the tongue is thick and interferes with work on the posterior part of the lower jaw, a tongue needle should be asked for. This should be pushed through the tongue about a half inch from the tip in the median line, and the stout thread pulled through and knotted. It is a great help in these cases to have a nurse hold the tongue over to one side.

When the work is completed, fresh gauze with the ends hanging well out of the mouth, should be placed so that no fluids will be aspirated or swallowed while the patient is still under the influence of the anaesthetic.

#### POST-OPERATIVE CARE

After the operation the operator will fill in the chart which has been brought to the operating room, with the required details of the operation. Should alveolar bone, or cysts be removed, sutures made, gauze inserted, etc., these should be recorded.

It is well to look in for a moment and see the patient on leaving the hospital. At this time written instructions over the operator's signature should be given as to the care of the patient. As the nurses change shifts during the twenty-four hours, verbal instructions are very unsatisfactory and should not be relied upon.

Instructions for the use of mouth washes, ice packs, heat applications, drugs for the relief of pain, laxatives, and special diet should all be in writing. One should always consider what is being done in these matters by the medical attendant. In many cases, however, if orders are not left by the dentist, the patient is only given general nursing care.

The matter of diet is very important for those patients who are kept in the hospital for any length of time under our care.

Patients with fractures of the jaw need special attention in this regard. When the jaws are fixed by wires or splints, a liquid diet is necessary. The usual hospital liquid diet, consisting of soups to a great extent, is quite deficient for the purpose. This should be reinforced by

an order for the daily use of a quart or two of milk and two or three raw eggs in the form of egg-nogs. Add to this cod liver oil and calcium, and the basis of bone repair is given to the patient. In addition he will not lose weight and strength with the great rapidity which he does on ordinary liquid diet. In these cases laxatives are often necessary. Orange and tomato juices are valuable and milk of magnesia provides an alkaline laxative of value in combatting the acid and constipating effect of the milk and soup fluid diet.

#### SUMMARY

1. More frequent use of the hospital by the dentist is in the interest of both patient and operator.

2. Surgical cleanliness and a developed aseptic sense should be the keynote of all work done in the hospital, especially in dealing with patients in poor health and with those who are at the time under a physician's care.

3. Consideration should be given to the rules of the hospital, and the convenience of its staff.

4. Pre-operative care should be considered, and one should be certain that special post-operative care is ordered for the patient—particularly for those who are remaining under treatment for any length of time.

5. There should always be co-operation with the physician in cases where the patient is receiving medical or surgical attention, at the same time.

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*"The longer I live, the more I am satisfied of two things: first, that the truest lives are those that are cut rose-diamond fashion, with many facets answering to the many-planed aspects of the world about them; secondly, that society is always trying in some way or other to grind us down to a single flat surface. It is hard work to resist this grinding down action."—Oliver Wendell Holmes.*



# How and When do You Decide Whether or Not an Infected Deciduous Tooth Should Be Extracted\*

by GERALD FRANKLIN, D.D.S., Montreal, Quebec.

THIS question is a very pertinent one for it is constantly to the fore with every clinician whose practice includes the proper percentage of children. All of us wish that the millennium were here and all children received such dental care that the infected deciduous tooth would be eliminated as a probability. However, that state in society and in dentistry is unfortunately still in the distant future and we are constantly confronted with the infected pulp or the purulent discharge through a fistulous opening.

The question as presented really belongs to the field of operative dentistry and could probably be answered much more capably by one who has had more experience in that field than I have. I regret that I am not in a position to give you my personal experience in the operative procedures involved and their successes or failures. The extremist would solve the problem very easily for he extracts all infected deciduous teeth, but like all other simple solutions it is too simple to be good. The premature extraction of a deciduous tooth, that is, its extraction before its normal time for being shed, has a very important bearing on the future occlusion of the permanent dentition. Perhaps that is the reason why I am dealing with the question—to consider it mainly from the angle of development.

I have read and re-read this question many times and have finally concluded that it involves a premise sufficiently

important to be classified as a major one. The premise is this—that infection in a deciduous tooth may be cleared up. Otherwise, of course, the question no longer remains a question. For if the infection must perforce remain as such with its possible adverse effects on the crown of the permanent tooth developing underneath or, what is more important, on the health of the child then, *ipso facto*, the local involvement in occlusion must be sacrificed to the general health of the whole organism. However, recent dental literature assures us that infected deciduous teeth may be treated successfully and the infection eliminated. To mention a few: Gardner, Kabnick, Stanton and Tuller report successes in the treatment of such teeth and record the details of their operative technique.

The whole question of infection and resistance cannot be considered here. One salient fact, though, must be kept in mind. If at any time nature comes to our assistance when dealing with infection it does so during childhood. Granted that the course of disease during this period may be rapid, nevertheless, the powers of recuperation are also at their height and the chances of eliminating the infection accompanied by a quick recovery are entirely in our favour. No matter how badly broken down the crown of the deciduous tooth in question is it can be restored as long as the infection can be cleared up. The clinical measures to be employed can be determined better by

\*Read at the Twelfth Annual Fall Clinic of the Montreal Dental Club, October, 1936.

yourselves. Whether broaches should be used at all or whether the canals should be disinfected or whether the apical area should be curetted through the fistulous opening and a drain of iodoform gauze inserted are procedures upon which I cannot pass judgment. Your clinical experience enables you to evaluate the different techniques much better than I can. It need only be remembered that resorption of the roots begins at or near the apex and that the total life of the tooth after treatment will probably not be more than six years at the outside, to realize that the requirements of root canal treatment are not quite comparable to and as exacting as that in the permanent teeth.

There are several conditions in which the prognosis is definitely unfavourable and any attempt at treatment is contra-indicated. When the radiograph indicates that more than two-thirds of the root is resorbed then the life of that tooth is not very long and it is approaching the time of being shed. Treatment in such case is not advisable from the practical viewpoint. A truer picture of the length of the root and the extent of its resorption may often be obtained from a bite-wing film than from the standard intra-oral film.

If the pus has travelled along the path of the periodontal membrane and destroyed its attachment, the discharge taking place at the free margin of the gingiva, the prognosis is negative. Re-attachment of the membrane will not take place and the possibility of re-infection is so great that treatment is contra-indicated.

The extent of decay is another factor governing prognosis. When caries has progressed so far that it has destroyed the floor of the pulp chamber the situation is hopeless. The only treatment here is extraction.

The physical state of the patient and his co-operation in the treatment must also be considered. If the child's health

is impaired or subnormal and recovery from disease sluggish it is better clinical procedure to remove the additional load immediately by extracting the infected tooth. For in such cases the response to therapeutic measures will probably be negative and the extra strain on the physique during treatment may better be avoided. The behaviour of the patient and the co-operation of the parent also play an important role. An unruly child whose good-will or co-operation cannot be won over by all the means at our disposal will seriously hamper therapeutic measures. In such cases the co-operation of the parent is even more important than ordinarily. If both are lacking extraction may have to be resorted to.

The age of the patient is another factor governing one's decision. If the infected tooth is within a year or so of being shed normally and if the process of loss of deciduous teeth and eruption of the succedaneous teeth is normal in the patient it is better judgment to extract the tooth. If there is a general delayed resorption of the roots of the deciduous teeth therapeutic measures should be undertaken, for it may be several years before the permanent successor may be ready for eruption. The radiograph is of great assistance in determining the stage of development.

The question should now be considered from its other angle—that of the development of the dentition and the bones of the face. The purpose of the deciduous dentition is not merely to supply teeth for the child. It has a very definite and important function in the normal development of the occlusion of the permanent teeth and the osseous bases in which they are placed. It is the deciduous teeth that control the position which the first permanent molars, those keystones of the permanent dentition, assume on their eruption. The deciduous teeth control the occlusal plane of the succedaneous teeth. The growth impulses

of the alveolar arches and their basal bones depend on an intact deciduous denture for their complete expression. It is the contact between these teeth which allows the growth impulse to be transmitted throughout the alveolar bone. If this contact is destroyed merely through proximal decay, part of the stimulus is lost and growth is not full. The normal width of the molars and their correct chronological shedding is necessary for a normal eruption of the bicuspid and a normal interdigitation of the permanent molars. A loss in width through decay has serious effects on the normal eruption of the bicuspid for it usually results in a crowding of these teeth with one or both outside the line of occlusion. The loss of integrity in the arch through the extraction of a deciduous cuspid or molar is wrought with even much more serious consequences. We are all familiar with the sequelae of such a procedure for before long we are faced with the problem of the underdeveloped arch, the collapsed occlusion, the impacted bicuspid and the abnormal molar relationship, each or all of which require prolonged efforts on our part and prolonged co-operation on the part of the patient for their correction. If ever the caution signal "Go Slow" should be raised, it should be before the forceps reach that deciduous tooth.

If, after weighing all the factors, one is finally forced to extract, then cognizance should be taken of possible effects on development and means taken to obviate or at least minimize future maldevelopment. This means that a space maintainer should be inserted immediately after the extraction. There is no space maintainer quite as satisfactory as the deciduous tooth itself. The latter maintains not only the mesio-distal dimension but the bucco-lingual one also and, what is equally important, the occlusal height, at the same time permitting individual

tooth movement. The best we can do is to construct a substitute that will maintain the mesio-distal width and allow tooth movement yet not interfering with normal growth. One in which the wire runs along the buccal and lingual sides of the alveolar ridge, thereby allowing for the eruption of the permanent tooth between them, is to be preferred. This takes care of possible forgetfulness on the part of the patient in returning when instructed to do so. The maintainer can be removed any time after the eruption of the permanent tooth. Where a single wire is used running along the centre of the ridge there is a danger of the tooth being deflected into malposition through contact between the wire and the triangular ridge, either buccal or lingual, of a cusp. Where several deciduous teeth are extracted the problem becomes a much more complicated one. A removable vulcanite space maintainer can be used here. It is held in place by round wire clasps which catch on lugs soldered on to bands. Willett advocates the use of removable partial dentures which are held in place in a similar way and which have proved satisfactory in the hands of even very young patients.

The position of the deciduous tooth to be extracted has a bearing when the question of a space maintainer is being considered. The loss of an incisor after the appearance of the developmental spaces is not too serious a matter. The loss of a cuspid, however, even after the appearance of these spaces or after the eruption of the permanent incisors is serious and the space should be maintained. Similarly the space of the first deciduous molar should be maintained after extraction. Special emphasis must be placed on the importance of the second deciduous molar. This is the key to the occlusion of the deciduous dentition and its distal surface acts as the guide along which the permanent molar

slides up in its eruption. If it becomes infected before the eruption of the first permanent molar every effort possible should be exerted to treat it and save it. For, if it is extracted at this stage, it is almost impossible to construct a really satisfactory substitute. One has been designed especially for this purpose and may be used when needed but it is far preferable to retain the tooth if at all possible.

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## *The Distribution of Oral Streptococci in the Tissues\**

*(Mr. Fish and Mr. MacLean in the Sept. 25th issue of the British Dental Journal in an article under the above title make a very significant contribution to our knowledge of focal infection. The article should be read in its entirety, since an abstract cannot do it justice.)*

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THE purpose of the paper is to consider the extent to which mouth streptococci and their toxic products invade the tissues. It is generally recognized that streptococci, and a variety of other organisms, may regularly be grown from the roots of extracted teeth, even though such teeth have vital pulps. The evidence for the appearance of these organisms is apparently very great, although the ordinary signs of inflammation are absent.

When the streptococcus enters the tissues, or blood stream, it is attacked by the polynuclear leucocytes and the invading organisms are overcome, accompanied

by the classic signs of inflammation, dolor tumor calor rubor, of the tissues. But where the organisms locate in a necrotic nidus, or in the pus which results from the contact of the invading organism and the defensive mechanism of the body, they are protected and are able to proliferate and send out their toxins into the surrounding tissues. The apical canals of dead teeth and the purulent debris of a pyorrhea pocket are examples of situations where the streptococci can proliferate out of reach of the phagocytes which hem them in. The response to a streptococcal invasion then is an acute inflammatory reaction by



which the invading organisms are hemmed in. The condition becomes chronic, the invading organisms cannot get out and the protecting organisms cannot get in.

The authors found, by the examination of a series of slides, that there is no sign of the presence of such invading organisms in the pulps or periapical tissues of ordinary living teeth. In cases where the organisms are known to be present the ordinary typical reaction is seen.

Where the tooth pulp is frankly dead the contained streptococci are able to live on the tissue fluids which seep in; but if they escape they are killed by the defensive agents of the system, while the defensive phagocytes are killed by the toxic products in the canal, if they enter. The condition is one of stalemate, except that the toxic products from the canal seep out into the surrounding tissues. This calls forth the typical round cell infiltration in the soft tissues. Further, this toxic irritation may cause certain changes in the surrounding bone.

It is safe to assume, from work that has been done, that the vast majority of even apparently quite healthy teeth which are extracted, have a definite mass of soft granulation tissue at the gum margin with a heavily infected periodontal sulcus. The technique of extraction opens up the numerous capillaries of the granulation tissue and the rocking motion alternately causes a negative and positive pressure on the vessels of the periodontal membrane, and in this way the organisms enter the periapical space and even the pulp. When the edge of the gum around the tooth was cauterized before extraction and the other usual precautions taken it was found possible to remove teeth without infecting the apex or pulp with organisms. This points very definitely to the way in which dangerous organisms are forced into the circulation in ordinary extraction.

The authors point out that the streptococcus is never a chronic inhabitant of living tissue, but requires a necrotic nidus (which may be pus) in which to grow. It is, of course, not suggested that the streptococcus never escapes into the general circulation or into the tissues.

The absorption of toxic material which causes destruction of connective tissue both locally and in more remote parts of the body can be prevented in the case of infected teeth by apicectomy or extraction, and in the case of pyorrhea, around living teeth, by obliterating the pockets and hardening the surface of the gum margins so that toxins can no longer be absorbed. Another danger to the patient from mouth streptococci, apart from that of toxic absorption, is the possibility that the protective barrier of granulation tissue may be broken down mechanically and streptococci from these necrotic areas be propelled into the blood stream. Organisms in a pyorrhea pocket may be forced into the blood stream by the rocking motion of extraction, or by a similar motion in biting on a hard piece of food. If such a patient had a damaged kidney or heart valve, etc., the danger of implanting these organisms in a new area, favourable for their growth, is evident. The risk of escape of organisms from an apical lesion is not so great, since, where the tooth is tight, it is less likely to mechanical interference.

In assessing the extent to which a dead tooth is affecting a patient's health there is a valuable criterion. If there is no local bone absorption or sclerosis it must follow that there is not sufficient irritation to effect very seriously the tissues even at the point of absorption. It is much less likely therefore that there is sufficient toxic absorption to affect the more distant tissues. It is of more value, clinically, to determine whether the patient is being damaged by the possible toxin than to determine the academic

question of whether an organism is present or not. If the bone around the apex of a dead tooth is radiographically normal such a tooth might be left in situ, except for the potential danger of its later becoming secondarily infected.

In addition to the dangers of toxic absorption and the escape of streptococci into the blood there is also in pyorrhea the obvious unpleasantness of swallowing this infected material.

Where we have a patient with infected pyorrhea pockets who is already ill (therefore not able to overcome organisms forced into the blood stream in extraction) and has perhaps non-vital, but as yet uninfected, vegetations of the

heart valves it is imperative that all possible precautions be taken before extraction. If this is not done, organisms are forced into the blood stream in extraction and when they reach the diseased heart valve they find conditions suitable for their growth, with disastrous results. To reduce this danger might call for a course of vaccines and preliminary treatment of the pyorrhea, even including gingivectomy. The teeth then extracted one at a time, after first cauterizing the gum margin. The danger to debilitated patients, suffering from certain diseases, is a very real one.

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*J. Stanley Bagnall, Halifax.*

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## Western Canada Dental Convention

**W**ESTERN Canada has become Convention-minded. Word has been received from points North, South, East and West and also from the larger centres, and they are coming en masse.

Why such interest at this early date? Is it a sign that the depression is over in dentistry in the West? Is it because our long severe winter has made us anxious to escape for a short holiday? Is it because we are hankering for fellowship with our colleagues and classmates? Is it because of the splendid array of clinicians that will be here to make the meetings profitable?

It must be remembered that few of us are in contact with schools of dentistry, where the latest advance in dentistry is taught. The depression has made it impossible for many of us to take post graduate courses. We cannot take the mountain to Mohammed, but the Convention brings Mohammed to the mountain.

Undoubtedly the depression has lessened in some areas. Undoubtedly some want to get away for a little holiday

after our long winter. Undoubtedly golf and fellowship will play their parts. Undoubtedly the beautiful setting will have its influence, but it is to the glory of the profession that the desire to progress is the dominating factor in the interest and enthusiasm already showing at this early date.

Dr. James Prime of Omaha, Nebraska, who will be at the Western Canada Convention will be a welcome guest. He has done a great amount of experimental work with silver nitrate as a prevention against decay in enamel in interproximal spaces, particularly in the anterior teeth where the labio-lingual dimension is less than in the bicuspid and molar region. We look forward to hearing the results of these experiments first hand.

Dr. C. N. Johnson, of Chicago, an honorary member of the Saskatchewan Dental Society for 15 years, simply could not resist the invitation to come home for the Convention in May. Won't we be glad to see him!

PAUL W. WINTHROPE,  
*Chairman of Publicity Committee.*

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM ONTARIO:

A patient recently said to me "Why do you not put out a sign 'Dr. \_\_\_\_\_ Dental Physician' and on your stationery refer to yourself as 'Dental physician and surgeon'?" I asked him why he objected to the term "dentist" and here are his reasons:

"To many of us your dental health idea is great but the term 'dentist' brings memories of

"(a) the good old days when they told us to be brave and hang on.

"(b) the days when we had live nerves taken out and dangled before our eyes.

"(c) when the smell of hydrogen sulphide told us another pair of false teeth was on the way.

"Those are my reasons for loathing the term 'dentist.' Here are reasons why I want the new term:

"1. You fellows deserve it. You pre-medicate and post-medicate and are kind.

"2. You prevent diabetes, tuberculosis and are preventive physicians.

"3. You have followed the medical physicians and surgeons and although you are not in charge of all the body, you are assisting them by doing work they are not trained nor able to do.

"4. The 'plaster mixing' era is over. In medicine, surgeons perform personal operations, but technicians make braces. In dentistry the dental physician and surgeon performs personal operations and devotes his working time in direct service

to the patient, thanks to the laboratory man who follows out the dentist's orders." — *William G. S. McLennan, Mimico, Ontario.*

*The above very interesting problem has been presented to the Journal. It was forwarded to a number of leading practitioners for their consideration and their replies are as follows.—Editor.*

## REPLY FROM NEW YORK CITY:

I have read with much interest the query of your correspondent regarding the use of the term "dentist" as I have the changes which he recommends. There can be no doubt that there is a measure of truth in what he says. Dentistry has, in fact, outgrown the narrow limitations placed upon it by the term "dentist"—defined by Webster as "one whose profession it is to treat the teeth and make and supply artificial ones."

Then, too, there is associated with the term, a certain lack of esteem—a sort of disparagement if you will. This at one time was true of the term "surgeon," for surgery throughout the middle ages and down to more modern times, was practiced by the barber. Indeed, the first organization of surgeons was made up of London barbers, out of which grew, in 1843, the Royal College of Surgeons. This evolution in the status of the surgeon did not occur over night, nor because of change in title, but as a result of higher qualifications for his work.

That there is a feeling on the part of

some that dentistry should be given a more comprehensive name—one more in keeping with present day conceptions of its responsibilities—is shown by attempts which have been made in recent times to change it, as, for example, by the use of the terms stomatology and stomatologist. In this city there is at present a flourishing organization known as the American Stomatological Association, the membership of which is composed of dentists and physicians interested in the broader aspects of dental practice. This, and other attempts to give it a name more in keeping with the scope of its activities have been made in recognition of the increasing responsibilities of modern dental practice. It cannot be said, however, that to date they have been particularly successful. For one thing, the term "dentist" is too well established in our language to be easily dislodged. Furthermore, it is custom rather than accuracy of speech that controls a language. This is seen in the custom of referring to the physician as a "doctor" which, accurately speaking, is an academic title shared by more than a score of different vocations.

To assume, therefore, the term "Dental physician" or Dental surgeon as recommended, would not, in my opinion, help the matter. A skunk by another name smells just as bad—at least as long as it remains a skunk.

There is, it seems to me, a better way to elevate the profession of dentistry than that suggested by your correspondent, and that is, to so fit the dentist through education and training, to meet his professional responsibilities that he will, because of the value of the service which he renders, make the term of "dentist" a badge of distinction. When this is done, he, like the surgeon, need have no concern about the title by which he is known. — *Arthur H. Merritt, Past-President, American Academy of Periodontology.*

#### REPLY FROM ONTARIO:

Personally, I am well satisfied and very proud of the term dentist and dental surgeon. These terms have been used for a period long enough to have us feel that they carry with them the traditions of the profession. I think that the meaning of the word "dentist" changes from time to time with the usages of the profession and carries an ever-increasing significance along with its development.

I cannot see where the word "physician" would be an improvement and would have the idea of enlarging our field of activity. I am sure that the public realizes that the word "dentist" includes all the service that our profession can and is legally authorized to give to them.—*Arnold D. Mason, Dean, Faculty of Dentistry, University of Toronto.*

#### REPLY FROM QUEBEC:

With regard to the enclosed question, I am heartily in agreement with the stand taken by the patient. The only movement on foot to change the name is through the Stomatological Society of New York. So far, nothing has been done by the American Dental Association nor the American Association of Dental Schools, and I doubt very much whether there will be any action taken with regard to changing the name. The school of thought that tends to merge the profession into medicine would, no doubt, use the term stomatologist with the same standing as otolaryngologist or dermatologist, etc. There is a strong desire on the part of the leaders of the profession on this continent to the effect that our profession should be given the same standing educationally and socially as that of medicine, which it is agreed, does not exist at the present time. The above merger plan would solve that problem. However, the latter is not likely to happen, for there is an equally strong



desire for professional autonomy in dentistry.—*Arthur L. Walsh, Acting Dean, Faculty of Dentistry, McGill University.*

**REPLY FROM NOVA SCOTIA:**

That your correspondent's patient is impressed with the progress that dentistry has made in recent years is encouraging. Continued progress will strengthen and extend this feeling. To many, especially young people, the word dentist does not call up the unpleasant memories described. For years dentistry diligently trained itself as a sort of super-craft, all the while vaguely wondering why it did not fully achieve the status and esteem due a profession. It is doubtful if we have passed through this stage completely. The proper education of the dental student, the efficiency of the practitioner, and the ideals and objectives of the organized profession should be recognized as the fundamental considerations. If these are sound the name will take care of itself. If not, a change of name is of little moment.—*William W. Woodbury, Dean, Faculty of Dentistry, Dalhousie University, Halifax.*

**REPLY FROM ALBERTA:**

I do not believe that we should be too ashamed of our ancestry. It is true that the name "dentist" is not an adequate one; but to me it does not suggest the things that Mr. McLennan keeps uppermost in his memories. If the old-time dentist in many cases was the type he describes, it is nevertheless true that there were many faithful souls in those days, doing work of a very high order, and by precept and example were leading their fellows up to a standard worthy of a noble profession. The public, it is true, have formed a very narrow view of our work; but it is not altogether due to our name. I think it is because we have our-

selves accepted their valuation, and we have neglected to enlighten them. "A tree is known by its fruits" and "What's in a name?"

It is unfortunately still true that a large proportion of our profession are actually "only dentists" as many are so fond of calling us, and I feel that the designation "Dental Physician and Surgeon" would only convey the impression that we are a bit too pretentious. The name "Stomatologist" was suggested years ago, and this would seem to convey the idea that we are something more even than is implied by the name advocated by your correspondent. Perhaps instead of adopting either one, we should set as our goal what they stand for, and then strive toward its attainment. Let us live the life and recognition will come.—*H. E. Bulvey, Director, School of Dentistry, University of Alberta.*

**REPLY FROM ONTARIO:**

Most of us will agree that the idea expressed in Dr. McLennan's problem has considerable merit. I believe, however, the term "Dentist" can imply just what you make it. There is a story told of a dentist who went for a game of golf one day without arranging for a partner. He was introduced as Dr. Smith to a threesome who wanted a fourth player. After teeing off and while the players were walking up the fairway, by way of conversation, Dr. Smith was asked, "Are you a medical doctor, Dr. Smith?" "No," he answered, "I'm only a dentist." I feel Dr. McLennan's patient had this type of dentist in mind, certainly not a professional gentleman, proud of his attainments and who would have answered with cultured dignity, "No, I am A DENTIST."

Dr. George Wood Clapp has catalogued four qualities of a successful den-

tist in the order of their importance as follows:

1. Be a good diagnostitian.
2. Be a good prescriptionist.
3. Be a good teacher.
4. Be a good craftsman.

He continues, "The greatest cause of lack of success is the effort to make the craftsman take the place of the professional side of dental service; and the reason we have an inferiority complex with the public is because we place craft before profession."

It would seem, then, that people are interested in health, aesthetics, comfort and economy and not so much in fillings and restorations. The point of stress should be where Dr. McLennan's patient puts it, in the second part of the problem. It is quite evident that this patient has received a new vision as to what dentistry

really is, and in his enthusiasm he says, "You are not only a dentist, but a dental physician and surgeon, meaning a physician (diagnostician, prescriptionist, teacher) first, and then a surgeon (craftsman) to carry out the technical part of the treatment.

Craftsmanship, in my mind, is just an instrument in the hands of the dentist to carry out those procedures of treatment that require technical skill. If we place stress on fillings, inlays and restorations, then we become glorified mechanics with a college education and are "only dentists," but if we choose the truly professional concept our patients cannot help but realize that "Dentist" implies a professional person qualified to care for the health of the oral cavity *per se*, and all its systemic relations.—T. R. Marshall, *Toronto, Associate Editor of the Journal for Ontario.*

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## *Conventions*

ONTARIO DENTAL ASSOCIATION, TORONTO, MAY 17-19.

WESTERN CANADA DENTAL SOCIETY, SASKATOON, SASKATCHEWAN, MAY 31-JUNE 2.

NEW BRUNSWICK DENTAL SOCIETY, SAINT JOHN, JULY 5-6.

MICHIGAN STATE DENTAL SOCIETY, DETROIT, APRIL 26-28.

AMERICAN ACADEMY OF PERIODONTOLOGY, ATLANTIC CITY, JULY 8-10.

AMERICAN DENTAL ASSOCIATION, ATLANTIC CITY, NEW JERSEY, JULY 12-16.

INTERNATIONAL DENTAL FEDERATION, STOCKHOLM, SWEDEN, JULY 9-14.

ASSOCIATION OF AMERICAN WOMEN DENTISTS, ATLANTIC CITY, N.J., JULY 12-16.

AMERICAN DENTAL SOCIETY OF EUROPE, PARIS, FRANCE, AUGUST 2-5.

AUSTRALIAN DENTAL CONGRESS, SYDNEY, AUGUST 16-20.

*Members of the Canadian Dental Association are cordially invited to attend the sessions of the American Dental Association, also those of the American Academy of Periodontology, being held in Atlantic City in July.*

# The Forum

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## • THE MEDICAL PARASITE

THE physician who does not keep pace with medicine is quite apt to deal with his inferiority complex by constantly drawing attention to his confrères' mistakes in the hope that this will aggrandize himself. A pathetic creature, always hinting at other physicians' shortcomings, he hopes to make a hero of himself at the expense of someone else. He hasn't enough ability or guts to stand on his own; he must always batten upon others to carry himself.

Medicine, as everyone knows, is not an exact science. Our mistakes are nightmares if we take them too seriously. Therefore, when we see another's mistake it is much more kind and gentlemanly not to call attention to it or to magnify it. We owe it to our profession not to be too harsh on another man.

Some physicians never see a patient without hinting in some way that the previous physician has overlooked something. Do these men ever gain by such methods? Decidedly not. There are many specialists who play the same game and the injured man always holds the whip over them by keeping patients away. One word of criticism on the part of a doctor may cost him hundreds of dollars in practice.

Few men know the finer art of the practice of medicine. These are born diplomats and gentlemen and it is a delight to see them work. They live on their own; they never have to take a thousandth of an inch from anyone to boost themselves. It must be a gratifying sensation to know that you can practice

medicine without ever resorting to these methods.

Perhaps the European method is better. Every word counts. If you say one word about a confrère you are quite apt to find witnesses at your door the next morning and you just have to back up your words or drop out of the picture.

Medical heroes are born and not made and the man who resorts to parasitic methods always loses in the long run.—*Editorial in Medical Times Nov. 1935.*

*"The doctor who lives on his criticisms of other physicians is skating on thin ice."*

## • WHY INTEREST OURSELVES IN DENTAL EDUCATION?

AMONG the reasons given by Thomas E. Purcell, chairman of the A.D.A. Reference Committee on Dental Education, why organized dentistry should interest itself in dental education are the following:

"In 1922 there were more than 14,000 students in the dental schools of the United States. In 1932 there were 7,000, an actual decrease since that time, of 54% in 10 years. There are retiring from practice each year because of death, age, or disability, more than 1,900 dentists; the graduates from all the schools approximate about 1,800. In 1922 there were approximately 62,000 dentists in the United States and in 1932 there were 58,000, a loss of 4,000 in ten years. If this decrease should continue until the year 2,000 or 64 years hence, San Francisco would have four dentists, based on its present population."

• **INFECTIONS OF THE FINGERS  
AND HANDS**

A **TIMELY** article on "Infections of the Fingers and Hands," by Mr. Handfield-Jones, who has made a special study of their treatment, which appears in the *Lancet* for October 10, draws attention to the great importance of prompt and proper treatment of injuries to the fingers. The recent death of a young and brilliant surgeon from a prick of a finger during an operation must have brought home to many the potential dangers of slight wounds of the fingers during the treatment of patients. It is probable that most dentists during the course of a year prick their fingers in the course of their work. In most cases the wound heals without trouble. Occasionally some relatively slight sepsis follows, while more rarely a spreading septic infection results and a long and dangerous illness follows or even a fatal issue. Mr. Handfield-Jones emphasizes the potential seriousness of all such injuries to doctors (and the same applies to dentists) for every injury of this kind has the possibility of carrying infection into the tissues under conditions which readily allow the spread of virulent organisms but which give the least amount of drainage. The precautions which he advises after an injury to a finger in the course of medical or dental practice are so comprehensive and simple that they deserve to be put on further record. All work should cease for the day. Free bleeding should be encouraged by holding the part under a stream of very hot water and bandaging the arm to promote venous congestion. If the hand is dirty more harm than good is done by washing it. The finger should be completely immersed in neat tincture of iodine for five minutes. A sterile dressing should be loosely applied and the arm immobilized in a sling until bedtime. This completes the prophylactic

treatment and if in the morning there is pain, swelling and tenderness, a surgical opinion should be sought. — *British Dental Journal*.

• **HUMAN NUTRITION**

by G. Ingham, in *The South African Dental Journal*, April, 1935.

**T**HE possibility that diet may influence the susceptibility to certain infectious diseases raises one of the most important problems of nutritional research. The popular idea of food as something analogous to fuel in relation to a steam engine is quite wide of the mark. The various chemical compounds received into the body under the guise of food have striking effects on all the phenomena of life. A few examples taken from some of the lower forms of life will make this clear.

When in a hive of bees, the queen dies, the workers immediately meet the crisis by selecting a few of the larvae which in the ordinary course of things would become worker bees destined to live perhaps six weeks, working feverishly to accumulate stores of honey which they will never live to enjoy. These larvae are then fed on a special milky kind of food called royal jelly. The effect of this is a complete change of character and destiny. The larvae thus fed become queens which then proceed to kill each other in a businesslike way until one is left. After a brief and tragic honeymoon (tragic for the male bee) she returns to the hive alone and sets to work stolidly, laying 1,000 eggs a day and living five or six years. To quote the words of Maeterlinck, "it is strange to see so many things—organs, ideas, desires, habits—and entire destiny—depending on a drop of milk."

This and other examples show that life is largely a chemical problem and human nutrition becomes important not only from the physical but from the psycho-



logical point of view. This is a sphere in which more experiments are needed.—  
*The Dental Outlook.*

#### • NATIONAL ASSOCIATION

**I**F the Dental Association of South Africa is to play its part fully in the national progress and if it is to be accepted by the public and the State as a body whose opinion is worthy of consideration, its members must be prepared to think impersonally, and to refrain from limiting their vision by parochial and provincial conceptions. Such an attitude in the past has made national unity almost impossible, diverting our energies into false channels, confusing issues and stifling progress. We, as a profession, must develop a national consciousness and a clear understanding of, and a vital interest in, the aspirations and needs, not only of our colleagues, but of our fellow citizens in every walk of life in every Province. We shall never obtain that national attitude while we persist in an extravagant loyalty to the Transvaal or the Cape, or Natal, or the Free State. I believe, however, that we are gradually learning the value of co-operation and fellowship and are beginning to appreciate the imperative need of tolerance, sympathy and mutual understanding. Perhaps no group of men is vested with greater responsibility. The health and happiness of the nation are, in a very real sense, dependent upon the discharge of the stupendous task facing the dental profession. We can, as servants of society, take our rightful place by rendering a preventive health service of inestimable value to the welfare of our fellow citizens, and thus gain not only economic security, but that which money alone cannot buy—the appreciation and esteem of our fellow men. We shall attain the higher ideal when we are able to harmonize our interests in the greater

loyalty which is symbolized in the name of our beloved country:—

"THE UNION OF SOUTH AFRICA".

—*Excerpt from President's Opening Address at South African Dental Congress.*

#### • LENGTHENING THE PRIME OF LIFE

**I**T WAS coming to be thought that longevity was determined only by heredity, and that "while there are many ways in which you can shorten your life, the only way to lengthen it is by the selection of a longer-lived ancestry." We now know that this was a too fatalistic view and that, important as is the inheritance, the life cycle can also be extended by simple improvement of food habit such as is easily within individual and family control. And it is important to realize that this increased length of adult life induced by taking a larger proportion of the needed calories in the form of the protective foods means a longer prime of life, not merely a longer old age. The prime of life is in fact extended in considerably greater ratio than the life cycle as a whole; and it is extended in both directions, development being expedited and old age deferred in the same individuals by the same improvement in an already adequate food supply. — Sherman, H.C.: *Food and Health*, New York, Macmillan Company, 1934.—*Journal A.M.A.*

#### • STATISTICS

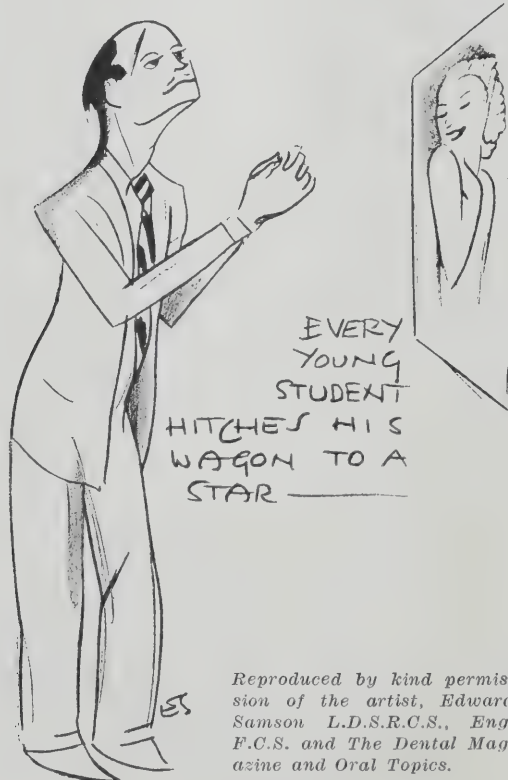
**I** DON'T want to be a statistic!" exclaims J. Weston Walch, of Portland, Maine, after having gone through reams and reams of figures proving how state medicine ought to work. He claims, in an article in *Medical Economics*, that "When I have a stomachache it is MY ache. It hurts ME. As I read about state

medicine, a library full of statistics does not impress me so much as the answer to one simple question: Would state medicine give ME efficient medical service?" He does not think it would. He is the editor of the Debate Handbook used by thousands of high school students all over the country to get ammunition on both sides of the question.—*Public Relations Bureau Medical Society of N.Y. (A.D.A. Press Release Service).*

• TIME WAITS FOR NO MAN

IN ORDER to do anything in this world worth doing we must not stand shivering on the bank, and thinking of the cold and the danger, but jump in and

scramble through as well as we can. It will not do to be perpetually calculating risks, and adjusting nice chances: it did all very well before the Flood, when a man could consult his friends upon an intended publication for a hundred and fifty years, and then live to see its success for six or seven centuries afterwards; but at present a man waits, and doubts, and hesitates, and consults his brother, and his uncle, and his first cousins, and his particular friends, till one day he finds that he is sixty-five years of age—that he has lost so much time in consulting first cousins and particular friends, that he has no more time left to follow their advice.—*Sidney Smith, Indian Dental Journal.*



*Reproduced by kind permission of the artist, Edward Samson L.D.S.R.C.S., Eng. F.C.S. and The Dental Magazine and Oral Topics.*



PRINCE EDWARD ISLAND



W. T. Waye, Charlottetown

NOVA SCOTIA



A. W. Faulkner, Halifax

NEW BRUNSWICK



J. F. Edgecombe, Saint John

Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

QUEBEC



F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

MANITOBA



J. F. Morrison, Winnipeg

SASKATCHEWAN



F. C. Harwood, Moose Jaw

ALBERTA



John Clay, Calgary

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## To the Senior Dental Students of Canada

There should be, and there is, a strong link of sympathy between the members of the Canadian Dental Association and the members of the graduating classes in the Dental Departments of the Universities of Toronto, McGill, Montreal, Dalhousie and Alberta. In a few weeks' time, College days will be a thing of the past and you, as graduates, will become active members of our National Association, as young men in the thick of the battle of life, determined to win your spurs.

You will all wish for the success which should follow your best efforts, only remember that true success comes slowly and is the culmination of doing everything you undertake to the best of your ability. "The man who goes up like a rocket always comes down like a stick." You must be prepared to pay the price of personal sacrifice and hard work. Edison, when asked the definition of genius, replied, "Two per cent is genius and ninety-eight per cent is hard work." "That is good enough" is a very dangerous motto.

Every young dentist should "hitch his wagon to a star." Edward Samson

says in his humorous classic entitled, "Toothful Essays," that "Very rightly the young student's wagon is hitched, not to one star, but to a regular galaxy of stars—to a kind of Milky Way of shining, stellate standards. But alas! how frail is human determination, and how overwhelming are the adverse circumstances which conspire to shatter our best intentions."

Of these many stars I am not commending the type illustrated in our Forum Section, although any dentist is thrice fortunate who has a wife who is affectionate, sympathetic with his ideals and aims in life, granting that they are worthy, appreciative of his efforts and responsive to his thoughts, whether she be beautiful or homely, rich or poor, talented or quite ordinary. If the home comes before the office, if the electric refrigerator must come before the electric engine and x-ray machine, if the electric washer looms larger in importance than redecorating and modernizing the office, then the time may eventually come when you will have neither home nor office. Remember also, that stream-lined motors are not essential to success or happiness.

It is not cheaper to buy a new car every year in order to keep the old one from deteriorating. Balance your budget and don't forget how to walk. From the very first lay aside each year a certain amount to be spent, perhaps some years later, on modernizing your office. How often do we hear the man of fifty say, "I cannot afford to re-furnish my office. My practice does not warrant such expenditure!" when the truth is that he cannot afford to do other than rejuvenate his professional headquarters, if he wishes to keep his head above water.

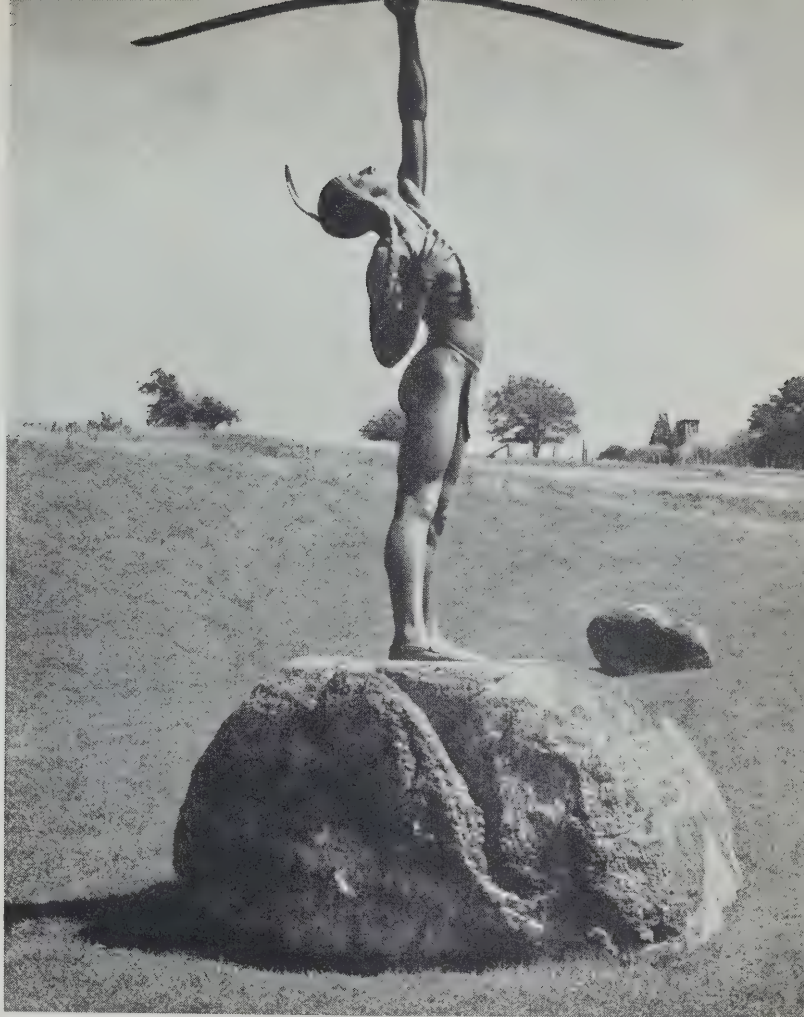
I do commend those stars suggested by the statue of "Pumunangwet," illustrated in this article. This Indian statue stands to-day on Prospect Hill, at Harvard, Massachusetts. The Indian is depicted as drawing his bow and aiming his arrow at the stars, and this is quite fitting since his name means "He who shoots the stars," symbolizing high aspirations and ideals.

And so I would urge you senior students to aim your arrows at the stars. Among those arrows of aspiration, the first should be one's life plan. Oliver Wendell Holmes said, "Form a distinct plan for life, including duties to fulfill, virtues to practice, powers to develop, knowledge to attain, graces to acquire. Circumstances may change your plan, experience may show that it requires modification, but start with it as complete as if the performance were sure to be the exact copy of the program."

That plan should embrace honesty of purpose, an unwavering aim, determination to surmount all obstacles, self-mastery and the abiding virtues of life as expressed by St. Paul, "Faith, Hope and Charity". Whoso gives a cup of cold water to a disciple gives it to the Master. Read the Prayer for Physicians, by Maimonides, appearing on page one of this issue.

Another arrow will be labelled "Service to the nation." Every young graduate should commence his professional career with the vision that he has something to give to his country. What will be your contribution? Whatever it may be, keep the fire burning and, if necessary, fight for it to the very last.





PUMUNANGWET

*(He who shoots the stars)*

ERECTED AT HARVARD,  
MASS.

If you would succeed, remember that another arrow is to be called "Personality." By personality I mean your ability to influence people and make them like you. Personality does not depend upon ordinary education and general intelligence. You may be the gold medallist in your class, you may be the most gifted technician that has passed through the college halls, but unless you have personality, success will not be yours. Do not say that you were born without this gift and therefore nothing can be done about it. Something can be done about it. Undoubtedly personality can be acquired. Participation in sports (not to excess) develops one aspect of personality. Regular habits leading to good health mean much in this regard. Have many friends rather than one constant companion. Compliment people rather than criticize them. Attend public meetings and particularly your professional gatherings. Serve on committees. Work in harmony with your fellows.

Do not endanger your professional success by your social habits. A certain amount of social life of the right type is a necessity, as the mind needs

a change of thought, but excess is fatal. John Wesley's mother once wrote to him when he was in college as follows,—“Would you judge the lawfulness of a pleasure, take this rule. Whatever weakens your reason, impairs the tenderness of your conscience, obscures your sense of God or takes the relish from spiritual things, whatever increases the authority of your body over your mind, that thing is sin.” I would mention one point of self-indulgence in a specific manner and that is the indulgence in alcoholic liquors. Quite apart from any religious or moral standpoint, you cannot indulge and attain the power that might otherwise be yours. Good health is the foundation of all possible success. Do not allow the splendid enthusiasms of life to wither nor its noblest incentives to disappear. Keep your eyes fixed on that star of fine moral distinctions and restraints and then the great, earnest purport of life will not vanish. Heed not the alluring song of bodily pleasure and desire that sparkles in the sunlight and would sweep you on the tide, whithersoever it would. Look upon women with honour, chivalry and companionship, and so bring credit to your profession and to yourself.

Whatever one's philosophy of professional life may be, there should be written into it, and written large, the idea that national organization is a necessity. One of your arrows should point towards a bigger and better Canadian Dental Association. It is to you we turn for leadership in the days to come. Until the opportunity arises for national service, cope with the problems at your own door. Dentists do not always understand that the status of their profession in any community is just as good, on just as high a plane as the dentists in that community make it. It is the duty of the dentist to teach the people the value of mouth health. When we are not understood and when our professional service is not appreciated, we are the ones who are at fault.

Of course you will not stress free examinations, painless work, superiority over your fellows, guaranteed dental work. You will respect the honourable practitioners in this noble calling and, respecting them, you will not be jealous of them since it has been well said that “jealousy kills like the fire damp of a neglected mine.” “Thou shalt not covet thy neighbor's patients.”

In a few weeks' time you will be entering a new world, the world of active practice in your chosen profession. I cannot promise you immediate rich reward, but if you will place first things first, I can promise you an ever-increasing amount of the peace, the happiness, the satisfaction which comes from work well done. I can promise you also a most hearty welcome into the active membership of the Canadian Dental Association, believing that you will practise your profession with the highest altruism, and may I express the wish that many of you will reach the pinnacle which will make your names immortal and your memories sweet. We extend to you the hand of fellowship and will henceforth call you brethren.

Patently Pumunangwet is watching to see his arrow reach the stars, praying for the peace and happiness of his fellow Indians, a prayer that was

answered in the United States by the Reorganization Act of 1934 by which the Indians can live as they used to live when respect for courage and truth, honour for the aged, and reverence for the Infinite constituted their unwritten laws. And so may your ideals be realized as, like Pumunangwet, you attempt to "shoot the stars."

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## BOOK REVIEW

**Year Book of Dentistry 1936**—Edited by Charles G. Darlington, M.D., Professor of Pathology, New York University College of Dentistry; George W. Wilson, D.D.S., Professor of Operative Dentistry, Marquette University Dental School, Milwaukee; Howard C. Miller, D.D.S., Chicago, Illinois; Charles Lane, D.D.S., Dean of the University of Detroit School of Dentistry; and George M. Anderson, D.D.S., Professor of Orthodontia, Baltimore College of Dental Surgery, University of Maryland. Published by the Year Book Publishers, Chicago; 800 pages and with 499 illustrations. Cloth. Price—\$3.00.

This book is a very interesting review of the best current dental literature of the world, published in 1936 and patterned after the Medical Year Book which is now in its thirty-sixth year of service. It has been the aim of the editors to select those articles designed to meet the requirements of the average busy practitioner and in this they have succeeded.

This book is a splendid reference book on almost any subject in dentistry and is so condensed that the information can be obtained with very little reading. Abstracts of twelve papers which appeared in the *Journal of the Canadian Dental Association* in 1936 are found in this Year Book of Dentistry.

*M. H. G.*

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## NEWS FROM THE PROVINCES

### **PRINCE EDWARD ISLAND:**

#### **Report of Health Officer**

In this report, reference was made to the Charlottetown Dental Clinic which was started in November, 1935. The City Council provided the equipment and room and it was financed by the Rotary and Gyro Clubs each contributing \$200.00 and a grant of \$300.00 from the Department of Health. Some 85 indigent children received treatment.

### **BRITISH COLUMBIA:**

#### **Vancouver Dental Society**

Dr. Lawrence E. Hanson, D.D.S., M.S.D., Seattle, Washington, was the guest speaker at the monthly meeting of the Vancouver Dental Society. He presented a very extensive outline of Oral Surgery and Diseases of the Mouth, illustrated with coloured slides, of cases at

Cook County Hospital, Chicago, where he spent a year in post-graduate work and from where he received his masters degree in surgical dentistry.

For the oral surgeon, his presentation was of the greatest value, but for the general practitioner, while it was very interesting, it was far beyond his scope. However, it was something that every practitioner should have a knowledge of, in order that he can properly diagnose these conditions and so know when to refer them to the oral surgeon for treatment, as well as to be able to co-operate with him.

Dr. Hanson's slides showed clearly, conditions of cellulitis, osteomyelitis, cavernous sinus thrombosis, actinomycosis, cysts, carcinoma, calcareous deposits in the glands, tuberculosis and syphilis, as well as other conditions, all of which were discussed and treatment outlined.

From the general practitioner's standpoint he

discussed in detail syphilis and cancer, both benign and malignant. He viewed with alarm any herpes labialis, or common cold sores, which persisted for more than three weeks as these might be the initial stages of cancer. He stated further that women were practically free from cancer of the lips in the past, but since a great number are now heavy smokers, cancer will be found more frequently.

#### Indian Service

Dental work among the British Columbia Indians cost the government \$3,148 in the past three years according to returns tabled in the House of Commons.

#### Deadlock Confronting Health Insurance Plan

British Columbia has been forced to shelve, for the time being at any rate, its latest experiment in social legislation—health insurance.

Confronted by the emphatic refusal of medical men to co-operate, the Health Insurance Commission had virtually no alternative but to postpone the whole program until the Premier returns from the East.

If the act is revised to provide for the indigents as suggested by the medical men, it would mean levying of a special tax—something that the Government hesitates to do. To the medical profession no scheme of health insurance will be satisfactory that leaves these people unprovided for.

Meanwhile politics appears to be entering the controversy and where the issue will finally end is one of those things that no one will predict.—*Excerpt from Financial Post, February 20, 1937.*

#### ALBERTA:

##### Edmonton Relief Recipients

Included among Edmonton's relief recipients are a dentist, a lawyer, a steeplejack, a sailor, four former policemen, five school teachers, 779 labourers, 132 truck drivers, 125 carpenters, 114 salesmen, 67 clerks, 64 painters, 31 railroad workers and others, a report to the city council revealed.

##### Olds

Dr. H. P. Kenny has been elected mayor of Olds for a two-year term by acclamation.

#### SASKATCHEWAN:

##### Conventions

Dr. R. A. Johnson, Regina; Dr. D. M. MacFarlane, Regina; Dr. A. Rabinovitch, Kamsack, and Dr. J. E. Wright, Estevan, were among those from Saskatchewan who attended the annual meeting of the Chicago Dental Society. A very large attendance, approaching that of a "National Dental Association" meeting, and a very splendid meeting throughout, is reported. Distances in Western Canada from the principal conventions in Canada and the United States frequently deter our men from attending conventions but all who do attend are greatly benefitted and feel it is eminently worth while. The personal satisfaction in keeping up to date in theory and practice, with the resultant improved service to our patients should stimulate all who possibly can to adopt the "Convention habit". This year Saskatchewan men are fortunate in being hosts to the Western Canada Dental Convention to be held in Saskatoon, May 31, June 1 and 2, and the "hosts" should be present one hundred per cent.

##### Cost of Dental Relief Service

Dental service provided for Saskatoon's relief recipients last year cost an average of \$2.35 per individual. For 1935 the cost was \$1.68 per person. The dental service consisted largely of extractions.

##### Regina Bonspiel

Dr. H. E. McKellar, of Carlyle, was in command of the Saskatchewan Curling Association during the biggest bonspiel that Regina has ever known, held in February.

##### Regina Dental Clinic

At a meeting of Ward Three Labour Organization held in February, a resolution was passed to urge the City Council to establish a free dental clinic in the General Hospital to provide for all relief recipients. It was recommended that all families who earn less than \$125.00 a month be entitled to take advantage of the service.

Dr. James MacLeod, who has been practising in Shubenacadie since his graduation, moved to Bridgewater recently. The Journal wishes him success in his new location.



Friends of Dr. Fred M. Murray, Moose Jaw, a 1925 graduate of the North Pacific Dental College, Portland, will be interested to learn of his marriage to Miss May Sheddon, of Regina, which took place at the bride's home on December 29. After a honeymoon spent at West Coast cities, they will reside in Moose Jaw.

#### **MANITOBA:**

##### **Dental Clinics Organized by the Canadian Foundation for Preventive Dentistry (Manitoba Division)**

From 1929 to 1936 is a very short span of years; but when we compare what has been accomplished in this work in such a few years, we are indeed surprised and gratified.

These clinics were operated for the first time in 1929 as part of the Mouth Health campaign. Eleven places were chosen by the Department of Health and Public Welfare as being the most needy places in the province and free clinics were conducted for 53½ operating days, during which 1,103 children were examined and 949 of them were operated on for a total of 2,279 operations. We thought this was pretty good, but looking back from the 1936 showing it does not appear as large. Since 1932 all these clinics have been conducted on a basis of a contribution from each district of so much per operating day. They are all sponsored and initiated by the districts and are made possible by the efforts of the districts visited, augmented by grants from the Department of Health, Manitoba Dental Association and the Canadian Dental Hygiene Council; and in the case of Brooklands village by a grant from the Winnipeg Kiwanis Club. We know of no Public Health work that has produced so much good for the small amount of money spent, which was approximately \$4,000 for 1936.

The 1936 report shows that 63 clinics were held, ranging from ½ day to 11½ days each and totalling 161½ operating days. During this time 4,035 children from 90 schools were examined and 3,534 of them operated on for a total of 8,660 operations. One of the most pleasing features of the 1936 report is the showing made by the school boards and official trustees, who sponsored 42 of these clinics.

Such a record shows that these school boards are willing to do anything that will improve the health of their pupils. The other 21 clinics were sponsored by various women's organizations, such as the Women's Institutes, United Farm Women of Manitoba and local Ladies' Aids, the members of which have spent many long hours securing the necessary funds and are to be most heartily congratulated and thanked for their untiring efforts to improve the health of their children. Another very pleasing feature of these clinics is the number of places who are repeating their clinics each year. Here is the record for one town, which has held a clinic for three years in succession:

1934—when 25 days were required to do the necessary work.

1935—when 12 days were required to do the necessary work.

1936—when 5½ days were required to do the necessary work.

Unfortunately dental disease does not stay cured, but must be constantly checked up and it is by the yearly repetition of these clinics that a town or district secures the full benefit. One clinic does a tremendous amount of good, but unless it is followed up each year a great deal of the good accomplished is lost and we cannot emphasize this point too strongly.

A. E. PROCTOR,

*Chairman Clinic Committee.*

#### **Winnipeg Dental Society**

The Winnipeg Dental Society met on March 4th with the president, Dr. Howard Geddes, in the chair. One minute's silence was observed in memory of the late Dr. Artley E. Clint, a former member of the Society.

Addresses were given by Dr. J. F. Morrison and Dr. A. E. Proctor. Dr. Morrison spoke on "Fractures of the Mandible" outlining his experiences in the Army Dental Corps, while serving Overseas and demonstrating with models the treatment for various types of fracture. Dr. Proctor spoke on "Gold Inlays" demonstrating by models his method of producing gold inlays. As both men were speaking from years of experience their statements were received with particular interest.

Committees were formed to plan for Manitoba's participation in the Convention of the Western Canada Dental Society being held in Saskatoon, May 31st and June 1 and 2.

**ONTARIO:**

**Kingston**

Seventeen dentists, of Kingston, contributed their time, and examined the mouths of the children in the public schools during February. It was found that eighty per cent of the children had defects of some kind and needed dental service. A card report was made out in triplicate for each child, one copy being for the parents, one for the school and one for the Ontario Department of Health.

**Hamilton Dental Society**

The members of the Hamilton Society met for dinner at the Royal Connaught Hotel on the occasion of Dr. Silberhorn's visit to their society on March 12th. The meeting was well attended, and those present appreciated the splendid efforts of the essayist.

**Hamilton Dental Association  
Table Clinic Night  
Wednesday, February 10th, 1937**

**TORONTO CLINICIANS**

Dr. J. M. Sheldon—Porcelain.  
Dr. Ross Thomas—Sharpening Instruments.  
Dr. P. G. Anderson—Investment, Models, Inlays.

Dr. T. L. Marsh—Use of Colour Photography in Visual Presentation, Leica camera and operator, camera co-operation T. Eaton Co.

Dr. S. A. MacGregor—Cavity Preparation and Restorative Materials in Deciduous Teeth.

Dr. Flora Cowan — Repair of Anterior Teeth.

Dr. George Everett—Selected.

Dr. R. G. Hemmerich—Selected.

Dr. Fred Williamson—X-Ray in Every Day Practice.

Dr. Wallace Mitchell—Gold Foil.

Dr. Carl Moyle — Oral Surgery-lantern slides.

Dr. John Moser—Plastic Fillings.

Dr. Gordon Spinks—Educational Models.

Dr. W. J. McEwen—Orthodontia.

Dr. R. T. McDonald—Orthodontia.

Dr. W. G. Foster—Consultation (orthodontia).

Dr. Harold Brownlee—Ideas.

**Officers of Toronto Academy of  
Dentistry for 1937-38**

Hon. Pres.—Dr. S. S. Crouch.

President—Dr. Harvey W. Reid.

President Elect—Dr. Harold W. Hoag.

Secretary—Dr. W. G. Trelford.

Treasurer—Dr. H. R. Skilling.

Councillors—District 1—Dr. R. W. Hoffman; District 2—Dr. Harry Hobbs; District 3—Dr. Vernon Fisk; District 4—Dr. L. J. Saunders; District 5—Dr. V. H. Large.

**Toronto Academy of Dentistry**

On the occasion of the last stated meeting of the Toronto Academy of Dentistry, the essayist was Dr. O. W. Silberhorn of Chicago.

Dr. Silberhorn gave the detailed steps in the preparation of three-quarter crowns, full cast crowns and dove-tail inlays, showing how these can be constructed with a minimum destruction of tooth tissue and display of gold, while still maintaining adequate retention and strength. Excellent slides and models supplemented his paper.

A very nice recognition was given our own Dr. Irwin Ante for his work as published in this JOURNAL.

**Orillia Board of Education**

On Orillia's 1937 Board of Education there are three members of the dental profession—Dr. W. C. Kennedy, Dr. Harold Hunter and Dr. Harold D. Morris.

**Rockefeller Foundation Grant**

Essex County Medical Society's system of caring for relief recipients will be continued for another 18 months through a grant of \$25,000 from the social science division of the Rockefeller Foundation.

The Essex group evolved a scheme to study the nature of the different ailments of relief patients and to "lubricate" the relations between the practising doctors and the controlling organization by introducing a modern "punch-card" system. The Ontario Medical Association voted \$5,000 to the branch. The scheme has no connection with voluntary or compulsory health insurance.

### **Voluntary Health Insurance**

The Ontario Medical Association has just incorporated a company to be known as the "Ontario Medical Services Limited". Its purpose is to provide hospital care, medical, surgical, and nursing benefits.

The project is to be administered by a board of directors comprising medical men and laymen.

Participants will contribute \$2.00 monthly for the first member of a family, \$1.75 for the second, \$1.50 for the third, \$1.25 for the fourth and \$1.00 for each additional member. In other words, the average family will pay \$7.50 a month.

In return for this outlay, there will be provided complete attendance by the physician at home, office or hospital, operating costs, anaesthetist's fee and a limited amount of drugs. Operating costs cover any operation which is ordinarily considered within the range of a competent surgeon. A patient may be required to pay a portion of the cost of a highly specialized operation.

Participants have the right to select their physician from the list of medical participants and the latter will be paid at the rates laid down in the tariff of the Ontario Medical Association. Cost sheets will be kept and rates adjusted from time to time.

Already the Civil Servant's Association has entered the scheme with some 1,000 members. The service is primarily for wage earners. In Essex county only those earning less than \$1,800 are eligible. In Toronto and Norfolk county there is no income limit.

It is hoped that the public will co-operate and that a compulsory health insurance act, for those able to contribute, will not be necessary.

The Ontario Dental Association has been invited to formulate a plan in connection with the medical plan and thus add dental service to the benefits of the company. At this time the Public Dental Health Committee of the O.D.A. are considering various angles of the scheme but up to the present nothing definite has been decided. Perhaps in the course of a few weeks something of a more tangible nature may be reported.

### **Peterborough Dental Society**

Dr. George A. Morgan, of Toronto, spoke at afternoon and evening sessions of the Peterborough and District Dental Society on March 3. The subjects discussed were "X-Rays as an Aid in Dental Diagnosis" and "Preparations and Precautions to Lessen and Avoid Post-Operative Pain". The president, Dr. Ralph Honey, presided.

### **The Toronto Dental Nurses Alumnae Association**

The regular meeting of the association took place on Tuesday, March 9th, at the Faculty of Dentistry with a very good turnout.

The guest speaker of the evening, Miss Dama Lumley, B.A.Sc., gave an informal talk on "Interior Decoration", which was most interesting and instructive.

E. GRACE SINGER,  
*Corresponding Secretary.*

### **Windsor Dental Assistants**

The Windsor Dental Assistants entertained the Detroit Dental Assistants early in March. Mrs. Irene McNair spoke on "The Duties of a Dental Assistant". Miss Dorothy Scott gave a history of medicine and surgery up to the present day. Miss Ethel Scott read a paper which was given by the President of the American Dental Assistants Association at Toronto. Miss Eleanor Marcou spoke on behalf of the Detroit Society.

### **QUEBEC:**

#### **Montreal Dental Club**

The Montreal Dental Club staged its annual winter meet at the Alpine Inn, Ste. Marguerite, Quebec, on the week-end of February 5, 6 and 7th. Forty-five members and guests left by special car Friday afternoon and enjoyed two full days of winter sports at this Laurentian resort. Drs. Earle Johnson and Stewart Ross, of Rutland, Vermont, and Dr. Glen Young, of New York, were among the guests.

Dr. Glen Young gave a very interesting day's clinic on Orthodontia to the club members on Friday, February 5, in the club rooms, although this clinic was chiefly for those

specializing in this branch of dentistry. Quite a few general practitioners availed themselves of his splendid presentation.

#### **Dental Nurses and Assistants**

The Third Annual Dinner of the Montreal Dental Nurses and Assistants Association was held on February 2, the retiring president, Miss Marion MacIver, presiding. Flowers were presented to Miss MacIver in appreciation of her untiring efforts on behalf of the Association and to Miss Phyllis Bender for her work at the Annual Fall Clinic held last October.

The following officers for 1937 were elected: Hon. president, Marion MacIver; president, Mildred Starr; first vice-president, Edith Nugent; second vice-president, Dorothy Ross; treasurer, Ardis Crowell; recording secretary, Lillian Fincher; corresponding secretary, Martha Barber; assistant secretary, Nancy Reid.

#### **Quebec Dental Clinic**

In the Municipal Dental Clinic of Quebec, 6,712 patients were treated in 1936. Dr. A. A. Lantier is director of the clinic and his assistant is Dr. G. Laroche.

#### **Court Maintains Dentist's Appeal**

Use of steel or platinum in a dentist's needle to administer an anaesthetic, and its thickness, were discussed in the Court of Appeal January 25, as reversal was ordered of a Superior Court judgment awarding \$1,400 damages to Olivine Poiré for injuries suffered when a dentist's needle broke and a fragment was left in the jaw.

Mr. Justice Bond, delivering judgment of the high court, held that the amount awarded by the Superior Court jury was thoroughly warranted by the evidence, but pointed out that the main question was that relating to legal responsibility of the dentist for damages in such a case.

Among the allegations charging the dentist with negligence was the assertion that the steel needle was extremely breakable and inexpensive, whereas a platinum needle cost more. The jury held that the dentist had used a needle that was not sufficiently strong, and Mr. Justice Bond thought that this finding was

ambiguous, as it was impossible to say that the weakness of the needle was attributed by the jury to the fact that it was made of steel rather than platinum, or whether they attributed the weakness of the needle to its calibre or gauge.

"The fact that the needle broke does not necessarily imply fault," said His Lordship. The finding of fact by the jury, Judge Bond pointed out, involved a further consideration of the legal consequences from such finding of fact, and this further question was one of law for the judge.

His Lordship noted that a dentist who fails to do what a reasonably prudent dentist would do is guilty of negligence, but there was question whether there was negligence in this case. Evidence of a number of experts was to some extent contradictory, "but the preponderance of evidence is in favour of the view that in this vicinity at least, steel needles are more commonly used than platinum needles." The judgment noted "there are apparently advantages peculiar to each, but from the evidence it is clear that many reputable practitioners prefer to make use of a steel needle."

Turning to consideration of the other solution of the jury's verdict that the dentist in the case was at fault in using a needle of insufficient calibre, the court noted again there was a difference of opinion among the expert witnesses called. In view of the difference of opinion, the high court was unable to say that the needle used constituted a legal fault, Mr. Justice Bond declaring that notwithstanding the finding of the jury that the needle broke because it was not sufficiently strong, the fact that it corresponded in thickness and material to needles used by reputable practitioners relieved the dentist in question from liability. —*Montreal Gazette*.

#### **NEW BRUNSWICK:**

##### **Moncton Free School Dental Clinic**

During December, 9 clinics were held at which 66 reappointments were made, 13 new patients were treated and 23 cases were completed. The clinic is sponsored by five service clubs—Rotary, Gyro, Y's Men's, l'Assomption Society and Kinsmen.



## EMPIRE NEWS

### GREAT BRITAIN:

#### Annual Meeting

The Annual Meeting of the British Dental Association will be held at Cambridge, July 30 to August 3. The arrangements include a visit to the High Tension Research Laboratory.

### SOUTH AFRICA:

#### A Coronation Memorial

Amongst the various plans for celebrating throughout Great Britain and the Dominions the coming Coronation of King George VI, there are some of a more substantial nature than the festivities with which the day will no doubt be associated in memory for years to come. Of the large sums of money to be spent in one way or another, some portion is likely to be allocated to permanent philanthropic objects. In Johannesburg it is said that, in addition to the nearly £20,000 to be devoted to the celebration, a permanent memorial will probably be set up, and a suggestion has been made that this should take the form of a Dental Clinic at an estimated cost of £25,000, the necessary site to be provided by a Government grant. — *British Dental Journal*.

### AUSTRALIA:

#### Essay Competition

The 1933 School Dentist Essay Competition was conducted through the State Schools of New South Wales on March 19th.

Essays had to be written at school under the teachers' supervision, and were not to exceed 800 words.

Teachers were requested to select the best three entries in each grade and to forward them, together with a list of competitors to the Chief Inspector.

In the Pre-Leaving Certificate Standard the title of the essay was "Means of Preventing Dental Disease". The first prize was £5. There were also five prizes of £1 each.

In the Pre-Intermediate Standard the essay title was "The Importance of Caring for the Teeth". First prize £5. Five prizes of £1 each.

In the Primary School Dental Examination, competitors were required to answer three questions out of six, there being two grades: (i) Fourth Class Standard. First prize £1. Eight prizes of 10/- each. (ii) Fifth and Sixth Class Standard. First prize £1. Eight prizes of 10/- each.

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## GENERAL NEWS

### The Professions

Despite increased requirements for admission to the professions, the number of professional men in the United States is increasing at a far more rapid rate than the rest of the population. Depression difficulties in financing an education failed to diminish the attraction of the law, medicine, and dentistry as a means of livelihood. The report on the national income, which has just been released by the department of commerce, shows that in 1929 there were 102,211 lawyers in private practice. After four years of depression the number had increased to 122,908, and there was a further advance to 126,685 in 1934.

The number of physicians and surgeons increased from 119,324 in 1929 steadily each year to 126,253 in 1934, the last year for which there are figures. As of the most recent report we have 63,452 dentists, which is a 6,000 gain over 1929.

Possibly people were more litigious in hard times, for the increase in the number of lawyers was accompanied by a corresponding gain in the number of clerks in law offices. But competition for legal business grew keener, as is evidenced by the fact that the average income of lawyers fell from \$5,534 in 1929 to \$3,868 in 1933, with a moderate recovery in 1934.

In the curative professions, however,

the evidence of overcrowding is much more pronounced. The number of employees in doctors' offices fell off sharply following 1929, despite the larger number of practitioners. And the average income of physicians and surgeons was only \$3,088 in 1933, after being as high as \$5,403 in 1929. For dentists average earnings fell to \$2,501 from \$4,564. Outstanding men in any line of work will always be able to command large incomes, but the competition is steadily growing keener. The time when a professional education will not pay for itself is not far off, indeed, if it is not already here.

Meanwhile in a number of skilled trades there are labour shortages. In some of the printing trades, foundries, and machine shops there are not enough men to do the work that is to be done. Airtight rules on admission to the unions and refusal to admit apprentices have created monopolies for those possessing cards. When not enough are admitted to a trade to replace those dying or retiring because of superannuation slowly increasing population is made to depend for certain services upon a slowly diminishing labour force. For an improving standard of living we need more machinists and plasterers, and might profitably divert some budding professionals to provide recruits for those trades. A better distribution of people between professions and trades is urgently needed.—CHICAGO TRIBUNE.

(A.D.A. Press Release Service.)

### **Artificial Teeth Are Property of Dentist Until Paid For**

A set of artificial teeth are the property of the dentist who made them until they are paid for, even if they have occupied the mouth of a patient for several months, the Pennsylvania Superior Court ruled to-day. The Appellate tribunal reversed a lower court decision fining Dr. George B. Irvine, Philadelphia, \$100 for removing the teeth from the mouth of Miss Margaret Hammond be-

cause she had failed to pay her bill.—*The Globe and Mail, Toronto.*

### **A.D.A. Convention**

"Preventive Dentistry in the Interests of Health" is to be the keynote of the A.D.A. Convention to be held in Atlantic City, July 12-16. The Municipal Auditorium, which is said to be the largest and most completely equipped in the world, is centrally located, directly on the ocean-front within easy walking distance of all hotels. The entire membership of the New Jersey State Dental Society is working to make this convention a success.

### **Dental Caries in Sweden**

As a result of prolonged investigations, Professor Schiötz, of Oslo, has come to the conclusion that the comparatively small proportion of children having sound dentitions is higher amongst the well-to-do classes than amongst the poorer section of the population, the actual figures differing in the ratio of 3.4 and 0.65 per cent. He ascertained, as was perhaps to be expected, that better dental conditions prevailed in institutions for the whole-time care of children than in the ordinary elementary schools of the city, a difference to be attributed to the more suitable diet provided, the regular habits and the open-air exercises prescribed. He is of the opinion that sugar, in the form of sweets, had little or no effect upon the returns and that brushing the teeth was of little value.—*British Dental Journal, December 15, 1936.*

### **Health Insurance Assailed**

To the New York Herald Tribune:

I am in favour of health insurance. I am not in favour of "health insurance" if the proposals are dictated solely by a group of theorists who disregard experience in Europe and fail to give proper consideration either to the opinions of leaders in the medical profession who are acquainted with the subject or to the problem of determining what any proposals will actually cost.

Any scheme which unwittingly encourages the prolongation of disability by the trouble-making psychopaths and maligners of every kind, or which results in the useless, inefficient

and perfunctory professional services of physicians will be a social hazard and not a social benefit.

If the health insurance plans proposed are prepared as hurriedly and as carelessly as in the case of the social security act, the inevitable excessive costs and disappointments due to failure to avoid obvious pitfalls will add further impetus to the rise in costs of living.

Also, ill-advised and hastily prepared legislation of this sort will add just one more factor encouraging the improvident and ignorant part of the community in its notion that they are entitled to living, with all the trimmings, without any obligations on their own part.

If some form of compulsory or voluntary health insurance should be proposed, the costs of it should be a direct charge upon the earnings of the beneficiaries. Those carrying or benefiting from such insurance should pay the premiums themselves, even though the money might have to be deducted from their earnings. The demagogue and the claptrap politician would, of course, prefer to assess the employer, who would merely shrug his shoulders and add the amount to the cost of doing business and proportionately increase the cost of his product. If the man in the street—the employee in this case—sees and feels what is being deducted from his earnings, he is going to be much more interested in what he gets for his money and will soon find out for himself whether the money collected is being used properly.—GEORGE H. HYSLOP. *New York, Dec. 8, 1936. (A.D.A. Press Release Service).*

#### **Fourth Annual Summer Postgraduate Course in Periodontia**

**New York University College of Dentistry**

New York University College of Dentistry will hold its fourth annual post-graduate course in Periodontia for two weeks, full day; or mornings only, for four weeks, beginning June 21, 1937. The fee is \$100.00. Course is limited to fifteen men.

The course will include ætiology, diagnosis, prognosis, and treatment of periodontal disease. Various techniques of pocket eradication will be considered and conservative treatment stressed. Vincent's infection; diagnosis of types of bone resorption; mouth manifestations of systemic disease; periodontal foci of infec-

tion; toothbrushing; instrumentation; drugs; balancing of occlusion; will be taught by lectures and clinical work, each student treating several cases.

Instruction will be by Drs. S. C. Miller, S. Sorrin, J. L. Blass, and the entire periodontia faculty.

For information and application blank, address the Periodontia Department, New York University, College of Dentistry, 209 East 23rd Street, New York, New York.

#### **Ninth Australian Dental Congress, Sydney, New South Wales, August 16-20, 1937**

The ninth Australian Dental Congress will be held in the University of Sydney's new Medical School, August 16-20, 1937.

There will be a comprehensive program of papers and clinics covering all the leading branches of dentistry.

This will offer a splendid opportunity for anyone who is planning a visit to Australia to take this time to pay a visit.

Our allied Association invites a delegation of our members to visit them, when they will be assured of a most cordial welcome.

J. STANLEY BAGNALL,  
Secretary,  
Canadian Dental Association.

#### **Illness Increases Under the Panel System**

The steady increase under health insurance in England and Wales is becoming a constantly increasing problem, according to Howard N. Mummery. In the *Practitioner* (137: 281 [Sept.] 1936) he says that it has been computed that about 50 per cent of the 15,000,000 insured population in England and Wales "go to the panel" every year and that over 31,000,000 weeks' working time is lost annually by industrial workers through sickness alone. The average annual duration of sick absence is roughly estimated at ten days for men and twelve days for women, but these figures do not include the first three days or less of absence, for which no benefit is paid.

Although the standard of life among the working population has risen and mortality rates have fallen during the past fifteen years,

there has been a steady increase in the annual sickness claims. The duration of sick absences has increased from an average of 16½ days to 28 days per person. Absences are longer when the employer adds to the insurance benefits during sickness. Insurance practitioners find that certain types of panel patients seem to think that they have a statutory right to so many weeks on the panel each year. The bugbear of all industrial doctors is "nervous debility," which looms large among the diagnoses on panel certificates. Many such patients are women who continue to do their household work while receiving the gossip and sympathy or envy of their friends.—*Journal of the American Medical Association*, Jan. 23, 1937. (A.D.A. Press Release Service).

#### Instructions on Insurance Service

The physicians in insurance medical service in Czechoslovakia are all asked to place a supplement to the *Prager medizinische Zeitschrift* for November 1936 in their waiting rooms for the information of their patients. One paragraph reads as follows: "Members of the sickness insurance societies often believe that the insurance physician does not adequately fulfil their desires. They often make demands that the laws and regulations of sickness insurance make it impossible to grant. Physicians who are anxious to accommodate their patients suffer from these expectations. The physicians are forbidden to exceed the legal limits regarding additional services and medicines whose prices exceed these limits. The physician is pledged to remain within the regulations of the sickness insurance administration and to act toward the insured in accordance with these instructions. These

instructions are not intended to limit the rights and demands of the insured but to hold them within certain limits that correspond to the health needs of the insured as well as to take into consideration the financial condition of the sickness insurance administration."—*Journal of the American Medical Association*, Jan. 23, 1937. (A.D.A. Press Release Service).

#### Doctors Condemn Health Insurance

Members of the Medical Society of Westchester County, oldest county medical society in the United States, meeting to-night in the auditorium of the local branch of New York Hospital, adopted a resolution urging the American Medical Association to set up a public relations department to combat by propaganda efforts to establish compulsory health insurance.

Citing the "unmistakable indications" that the State and national governments would enact some sort of compulsory health insurance laws this year, and contending the public lacked information on the cost and effects of such insurance, the resolution said few persons understood the "inevitable effects of such legislation upon the quality of medical care and the psychological and technical obstacles which almost certainly would render compulsory health insurance deleterious to health and unsound as insurance."

"The facts concerning the economic and psychological foundations of quality in medical practice and a realization of the vital public interest in the preservation of these foundations must be immediately publicized to the lay public," said the resolution.—*New York Times*, Jan. 19, 1937. (A.D.A. Press Release Service).

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## IN MEMORIAM

**Matthew A. Morrison**—of Peterborough, Ontario, aged 69, died on March 10. He graduated from the Royal College of Dental Surgeons in 1892 and practised in Peterborough for 44 years. He was active in

Trinity United Church for 25 years and was a member of Corinthian Lodge, A.F and A.M. He was W.M. and P.M., Scottish Rite and Rose Croix. He is survived by his widow, two daughters and a son.



# ... SECTION FRANÇAISE ...

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## Editorial

### Le Congrès

C'EST donc le mois prochain qu'aura lieu le grand congrès des Chirurgiens Dentistes de Langue Française de l'Amérique du Nord. Nous osons croire que tous les confrères s'y intéressent déjà et surtout se préparent à prendre, à cette occasion, un utile et agréable congé. Seule, une très grave raison pourrait excuser l'un d'entre nous de ne pas en être.

Plusieurs raisons nous font un devoir impérieux d'assister à ce genre de réunions. Des travaux scientifiques de toutes sortes seront lus ou expliqués à qui voudra en profiter. Et qui de nous n'en a pas besoin? Que nous soyons de la campagne ou de la ville; la pratique quotidienne nous apporte toujours quelques problèmes nouveaux. Et s'il arrive que nous ne soyons jamais embarrassés; ne serait-ce pas par hasard à cause de l'insuffisance de nos connaissances? Est-

ce que nous n'aurions pas une façon trop simpliste de régler certains cas qui mériterait beaucoup plus d'attention de notre part? Connaissions-nous bien toutes les méthodes nouvelles? N'appliquons-nous pas depuis des années tel ou tel traitement qui vient de s'avérer condamnable?

Que de questions nous pourrions nous poser encore et qui trouvent leur solution dans ces congrès. C'est en outre un devoir envers notre profession et je dirais surtout un devoir national. Nous sommes une minorité en Amérique et ce serait bien mal comprendre l'intérêt national que de ne pas tendre à la supériorité intellectuelle et professionnelle. Peut-être aurions-nous moins de difficultés à trouver des collaborateurs sérieux pour notre revue.

Donc soyons-en tous, les jeudi, vendredi et samedi, 27, 28 et 29 mai.

—A. T.

# Prothèse Palatine de Soutien, Consécutive à l'Ablation des Tumeurs Bénignes du Palais \*

par J. N. ROY, F.A.C.S.,

*Professeur à l'Université de Montréal; Chef de service à l'hôpital Notre-Dame;  
Lauréat de l'Académie de Médecine de Paris.*

**T**OUS les auteurs qui décrivent le traitement des tumeurs bénignes palatines, conseillent, les uns: de pratiquer une incision, de faire l'ablation, et ensuite de suturer la plaie; les autres: de laisser simplement la guérison par granulation se produire, sans coaptation, après l'opération. De nos jours les chirurgiens sont forcés d'avouer, surtout depuis la Grande Guerre, qu'en présence d'une fracture des maxillaires il faut avoir recours à la collaboration du dentiste pour une prothèse, afin d'obtenir le meilleur résultat possible. M'inspirant de ce fait, expérimenté en maintes circonstances, lorsque j'étais chef de service aux hôpitaux militaires de St. Cloud et de St. Ouen, où j'ai traité, de 1915 à 1918, de nombreuses blessures maxillo-faciales, j'ai pensé que cette même collaboration devait avoir lieu à la suite de l'ablation des tumeurs bénignes du palais. En effet, si l'on pratique une incision médiane du néoplasme, et qu'après l'avoir enlevé, l'on suture les lèvres de la section, il reste forcément un espace vide qui se remplit de sang. Etant donné la flore microbienne considérable qui existe dans la bouche, la moindre infection du champ opératoire peut se terminer par la suppuration de l'hématome.

Si, au contraire, l'ablation de la tumeur est faite après incision sans sutures consécutives, la plaie s'infecte, et la cicatrisation est forcément très lente à se produire. Aussi, durant ce laps de temps, le malade subit de nombreux ennuis.

Quant au procédé qui consiste à prati-

quer deux sections elliptiques à la base du néoplasme, et à enlever celui-ci avec son tissu de recouvrement, je considère que cette manière d'agir n'est pas digne de la chirurgie moderne, et ne devrait jamais être employée.

La méthode combinée que je préconise a pour but d'ôter la tumeur après une incision médiane, de faire deux ou trois sutures pour permettre la coaptation, et ensuite d'appliquer une prothèse palatine de soutien. Il est facile de concevoir que ce procédé offre les meilleures chances d'une guérison très rapide, sans inconvénients pour l'opéré. Voici d'ailleurs une observation à l'appui de cette méthode nouvelle.

*Observation.*—Mr. P. R., âgé de 23 ans, m'est envoyé pour une petite tumeur au palais. Il raconte qu'il y a un an environ, le côté droit de sa voûte palatine a commencé à augmenter de volume. Il n'a jamais reçu de traumatisme buccal. Deux médecins consultés avant moi ont pratiqué des ponctions qui n'ont rien donné. Pendant cet espace de temps, l'unique traitement a consisté en gargarismes antiseptiques.

A l'examen de la bouche j'observe une tumeur oblongue de trois centimètres environ de longueur, sur deux centimètres et demi de largeur, dont le centre se trouve vis-à-vis la seconde molaire supérieure du côté droit. Elle est en contact avec cette dent, et se termine au raphé médian de la voûte palatine. La tumeur est rénitente.

Etat normal des amygdales et du

(\*) Communication faite au Congrès de l'Association des Médecins de Langue Française de l'Amérique du Nord, Montréal, 7-10 sept. 1936.

rhino-pharynx.

Il existe un léger éperon de la cloison à droite.

En présence de ce néoplasme je propose l'opération qui est acceptée. Toutefois, avant d'intervenir, je demande au Dr. L. P. Reeves de vouloir bien me fabriquer une prothèse, en escomptant à l'avance l'anatomie normale du palais après l'ablation de la tumeur. Mon excellent ami a bien voulu se charger de ce travail délicat, et me fournir les renseignements suivants.

"Une impression de la voûte palatine et des dents a été prise en 'Stent', et un modèle en 'Coecal' fût coulé. Ce modèle reproduit une tumeur envahissant la région située entre la deuxième molaire supérieure droite et la ligne médiane, celle de la seconde prémolaire à la troisième molaire du même côté. (Voir photographie No. 1.)"

La protubérance sur le modèle a été complètement enlevée de façon à laisser voir une voûte palatine normale. Une pièce de prothèse en vulcanite recouvrant

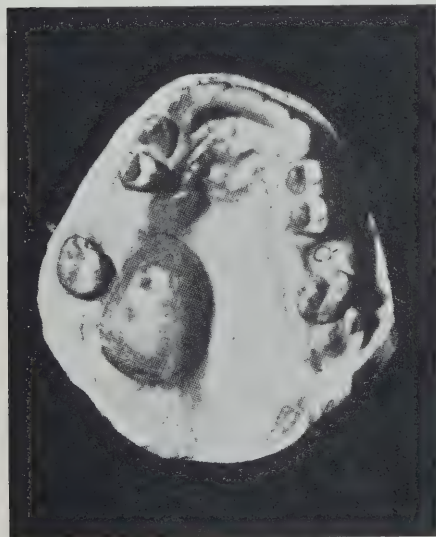


Figure 1.  
*Tumeur bénigne du palais.*

cette voûte palatine fut ensuite confectionnée comme si la tumeur n'eût jamais existé. Cette pièce mobile est faite en un seul morceau, s'adaptant au palais, et sur lequel se trouvent trois crochets en "Chromel" encerclant trois dents pour en assurer la stabilité. (Voir photographie No. 2).



Figure 2.  
*Prothèse palatine de soutien.*

Une prothèse de ce genre doit recouvrir parfaitement les tissus, mais sans faire de compression. Le chirurgien doit escompter que la pièce n'empêchera pas le drainage toujours nécessaire après l'intervention. Aussi quatre trous ont été forés dans la prothèse à l'endroit de la tumeur".

En possession de cette pièce prothétique, j'interviens le 21 mars 1935.

*Opération* — Anesthésie locale à la novocaïne-adréaline. Incision de trois centimètres sur le milieu de la tumeur, parallèlement à l'arcade dentaire supérieure droite. L'ablation du néoplasme est particulièrement facile, car il se laisse cliver sans hémorragie appréciable. J'ap-

plique deux points de suture à la soie sur les lèvres de l'incision, pour maintenir la coaptation, et place immédiatement ensuite la prothèse qui s'adapte d'une manière parfaite à la voûte palatine. Les trois crochets encerclant les trois dents la retiennent en bonne position.

Les suites opératoires sont très simples, et la prothèse est ôtée de temps à autre pour permettre l'asepsie buccale au moyen de lavages. Dès la quatrième journée, l'incision était déjà si solide que j'enlève les points, escomptant dans la suite le support prothétique. Le malade laisse l'hôpital parfaitement guéri au bout de huit jours. Il est revu dix-sept mois plus tard. La guérison se maintient toujours, et la cicatrice opératoire est à peine perceptible.<sup>(1)</sup>

Le Dr. Simard, qui a bien voulu faire l'examen anatomo-pathologique du néoplasme, m'a donné le rapport suivant:

"La tumeur est largement nécrotique et dissociée en son centre. Les tissus périphériques vivants sont de nature épithéliale et conjonctive.

"Les éléments épithéliaux forment tantôt des tubes glanduliformes entassés les uns contre les autres, tantôt des plages malpighiennes caractéristiques avec filaments d'union. Cà et là, en plein centre des travées malpighiennes apparaissent des cavités entourées de cellules cubiques ou prismatiques.

(1) Ce malade a été présenté à l'hôpital Notre-Dame, lors du Congrès de l'Association des Médecins de Langue Française de l'Amérique du Nord, le 10 sept. 1936.

"L'élément conjonctif est représenté par des îlots scléreux ou fibro-hyalins en continuité parfois avec les travées épithéliales.

"L'image histologique est celle d'une tumeur mixte de glande salivaire."

Il n'y a rien à ajouter à cette communication, qui a pour but de faire ressortir l'importance de la collaboration du dentiste pour la confection d'une prothèse bien comprise, avant l'ablation des tumeurs bénignes du palais. Que le néoplasme soit une tumeur mixte de glande salivaire, un neurinome, ou toute autre néoformation non maligne, il n'en reste pas moins vrai qu'un appareil de soutien est indiqué après une opération. Si, au lieu d'une tumeur bénigne, l'on se trouve en présence d'un cancer, la ligne de conduite du traitement ne peut être déterminée qu'après consultation avec un radiologiste, pour juger de l'opportunité des rayons X ou du radium, associés ou non à la chirurgie.

Avec l'appareil que je préconise, il est facile de comprendre qu'après avoir enlevé le néoplasme,—quelque soit son volume—et mis des points de suture sur les lèvres de l'incision, la guérison doit nécessairement se produire dans les meilleures conditions possibles. En effet, la prothèse a pour but de repousser les tissus disséqués vers la profondeur, et conséquemment d'empêcher la formation d'un hématome, de prévenir l'infection, et enfin de hâter la guérison, toutes choses que l'on obtient beaucoup plus difficilement avec les autres méthodes opératoires.

## *Ionisation et Curettage Apical*

par A. THIBAUDEAU

*Professeur à l'Université de Montréal.*

**L**ES cas d'infection radiculaire ou péri-fait le sujet de travaux aussi nombreux apicale ont, depuis plusieurs années, que disparates. Pour les uns, toutes les



infections dentaires sont traitables et guérissables. Pour les autres, toutes les dents dépulpées doivent être extraites sans ménagement. Il me semble qu'il y a là deux exagérations qu'il conviendrait d'éviter.

Il me paraît admissible qu'on doive extraire sans hésitation toutes les dents infectées dont les canaux restent inaccessibles, car dans ces cas, même s'il peut y avoir stérilisation, ça ne sera que temporaire, et comme les canaux ne pourront être obturés convenablement, il y aura récidive.

Par contre il me semble indubitable que toute dent dont le canal ou les canaux peuvent être ouverts et obturés parfaitement peut être traitée avec succès.

L'important dans ce cas est de savoir quels moyens nous avons à notre disposition pour arriver à ce but.

Je crois avoir déjà établi la valeur de la méthode osmotique qui ne réussit que par accident et chez des sujets d'une vigueur exceptionnelle. Les pansements antiseptiques répétés pendant des semaines et des mois n'atteignent que la surface des canaux radiculaires et il arrive souvent que l'usage de médicaments trop corrosifs causent plus de mal que de bien.

Il reste donc le curettage apical, l'apectomie, qu'il ne faut pas confondre, et l'ionisation.

Il me semble aussi que faute de notions suffisantes sur le but de l'un ou de l'autre de ces traitements on abuse considérablement de l'apectomie.

L'apectomie signifie: amputation de l'apex d'une racine; tandis que le curettage apical comporte tout simplement le curettage d'une portion de la racine et des parties avoisinantes. On aura vu tout de suite la différence.

On ne doit pratiquer l'apectomie que dans le cas où le tissu apical d'une racine a été altéré par l'infection au point de devenir lui-même une cause d'irritation.

Il ne faut tout de même pas oublier qu'une racine amputée de son apex est privée de son ciment et que la dentine ainsi exposée se résorbera dans la plupart des cas.

Le curettage apical non seulement suffit généralement, et ne comporte pas le risque de résorption. Il est peut-être plus difficile d'exécution. En effet, il ne faut pas se contenter d'aller avec un instrument quelconque bouleverser un peu les tissus infectés et de s'en remettre à la nature. Il faut des curettes bien tranchantes, racler toutes les parois de la cavité infectée et du pourtour de la racine. Il faut en outre faire un lavage à la solution Dakin.

Est-ce à dire que l'une ou l'autre de ces deux opérations aura définitivement détruit ce foyer d'infection? Je ne crois pas.

Quand une infection s'est développée dans une dent au point d'aller causer la destruction des tissus péri-apicaux, non seulement le canal est infecté mais aussi la dentine, par la voie des canalicules de Tomes. Il y a déjà longtemps que les classiques ont trouvé des colonies de microbes dans les espaces de Czermac et même dans la couche granuleuse. C'est ce qui explique bien l'inefficacité des pansements répétés dans la méthode osmotique et le peu de sécurité du curettage apical employé seul.

La méthode chirurgicale peut donc être considérée comme le complément utile et quelquefois nécessaire de l'ionisation qui seule peut assurer la stérilisation. Bödecker, tout septique qu'il était, en admettait l'efficacité même avant d'avoir terminé ses expériences, probablement commencées avec l'arrière pensée de démontrer le contraire.

Ceci ne veut pas dire que l'ionisation peut guérir toutes les formes d'infection possibles. J'ai déjà indiqué les conditions requises pour que ce traitement soit efficace.

Cependant il est certains autres cas où l'intervention chirurgicale devient le complément nécessaire de l'ionisation. Quand une zone d'infection très étendue laisse la région ultra-apicale pour devenir péri-radriculaire, il arrive souvent que ces culs-de-sac qui s'étendent vers le collet en longeant la racine, ne sont pas atteints par l'ionisation et l'intervention chirurgicale devient nécessaire. Ces cas,

généralement, sont fistulisés et continuent de suppurer même plusieurs semaines après l'ionisation.

Il arrive aussi quelquefois que malgré une stérilisation réussie, la suppuration continuelle est due à une quantité de substance obturatrice irritante, poussée au-delà de l'apex. L'irritation empêche la cicatrisation et l'intervention chirurgicale s'impose.

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## **Histoire d'un Cas**

par GERARD BAILLARGEON

**I**L Y A environ douze ans, Monsieur X..... se plaignant de fortes douleurs dans la région des molaires inférieures gauches se rend chez son dentiste qui a son bureau chez le médecin de l'endroit; en son absence c'est le médecin qui le reçoit, fait l'extraction des molaires avec beaucoup de difficultés, mais dit que tout est enlevé.

Après l'extraction il y a enflure considérable durant quinze jours: puis tout rentre dans l'ordre.

Trois ans après, à la suite d'une grippe, un violent mal d'oreille se déclanche du côté gauche; le patient se dirige vers un dispensaire. Le spécialiste l'examine, ne trouve rien et le renvoie avec sa douleur. Deux jours plus tard, nouvelle consultation avec un médecin praticien, celui-ci ne voit aucun mal, prétend que ce sont des névralgies, prescrit des tablettes pour maux de tête. Deux jours après le mal disparaît de lui-même.

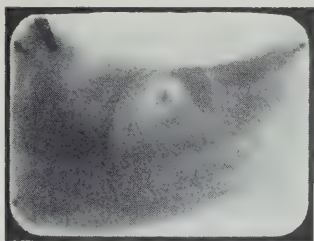
Durant les deux années qui suivirent, il y eut douleur à l'oreille de temps à autre; en plus abcès fistuleux de la gencive à plusieurs reprises, mais localisé près de la canine. A la suite d'un abcès fistuleux avec inflammation, le patient se décide à consulter un dentiste. Celui-ci lance l'abcès, désinfecte et avertit son

patient qu'il n'y a rien de grave.

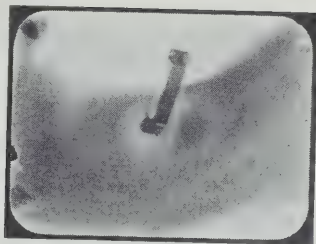
Tous les cinq ou six mois l'abcès se développe et disparaît sans laisser de trace. Entre-temps le patient consulte un autre spécialiste de la tête, et se plaint de très fortes douleurs; on ne lui trouve rien. Ce mal d'oreille consistait en un éclancement aigu du côté de l'oreille et de la tempe avec gonflement intense des veines de la tempe. Quelques mois après, il revoit un autre spécialiste avec le même résultat.

Il y a deux ans, nouvel abcès lancé de nouveau. Petit mal d'oreille régulier survenant après un léger excès de travail. Après une grippe en mars 1936, il consulte un autre spécialiste pour mal d'oreille intense. Le spécialiste ne trouve rien mais institue un traitement héliothérapie, qui n'apporte aucun soulagement. Les douleurs sont extrêmement fortes durant un mois, puis elles se calment mais il reste tout de même une petite douleur lancinante et continuelle. Après avoir de nouveau consulté le spécialiste, il va voir le dentiste pour douleur à l'oreille. Le dentiste l'examine localement et ne trouve rien. Il n'y a pas eu d'abcès au cours des deux dernières années.

En janvier dernier, nouvelle grippe



No. 1.



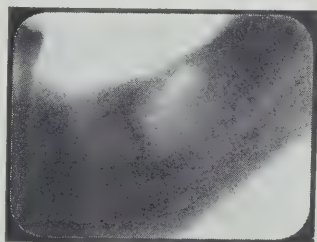
No. 2.

accompagnée d'un mal d'oreille extrêmement violent, température etc. . . . Il revoit le spécialiste qui ne trouve rien comme d'habitude, mais le renvoie chez le dentiste. A l'examen local, je ne vois rien d'anormal; et demande une radiographie pour plus de sécurité. Le film no. 1 nous indique la présence de deux racines, probablement de la 2<sup>ème</sup> molaire avec un amas de pus assez considérable et diffus. Un bout d'une des deux racines semble émerger de l'os légèrement. Après anesthésie conductive, massive, nous faisons une incision d'à peu près un pouce, nous écartons les lèvres. Avec un peu de difficulté nous parvenons à découvrir un petit bout de dent de la grosseur d'une tête d'épingle qui émerge du maxillaire. Nous dénudons un peu ce bout de racine qu'une légère pression fait plonger dans une cavité. Aussitôt, un pus très blanc et inodore s'échappe avec abondance. Nous irriguons au permanganate, posons un drain et renvoyons le patient. L'anesthésie disparue, le mal d'oreille ne réapparaît pas. Le surlendemain, nouvelle radiographie (no. 2) après mise en place d'une agraffe Michel non pliée, afin de nous faciliter la localisation des deux racines. Après anesthésie conductive à l'épine de Syx, ouverture assez considérable avec une fraise et curetage. Une des racines, la plus petite, est extraite avec une amas de tissus diffus. L'autre, celle qui obturait le maxillaire, est sortie dénudée. Au curetage nous enlevons une

quantité considérable de tissus diffus. Après une nouvelle irrigation nous remplaçons une mèche iodoformée à 5% et renvoyons le patient.

Depuis cette opération, le patient ne souffre plus de son oreille; les seules douleurs qui vont en s'atténuant sont enregistrées du côté de la tempe et du côté du rocher. Il dort très bien, ce qu'il n'a pas fait depuis deux ans. Film no. 3 pris après intervention.

Il est toujours d'une extrême importance de notifier le patient après une fracture de dent ou de racines; si nous ne pouvons la ou les déloger, avertissons-en le patient ou dirigeons-le chez un spécialiste.



No. 3.

Dans le moindre doute, radiographions; nous n'en abuserons jamais trop; combien de choses nous découvririons par la suite.

Insistons auprès des médecins spécialistes de la tête sur l'importance de l'examen des dents et des maxillaires dans tous les cas ambigus de douleurs aux oreilles, yeux, sinus etc.

# Revue des Revues

par GERARD DE MONTIGNY, B.A., D.D.S., M.S.D.

*The Dental Digest*, livraison de janvier 1937.

"LES NOTIONS QUE POSSEDENT 1200  
PATIENTS AU SUJET DE LA  
DENTISTERIE"

La direction de la revue "The Dental Digest" entreprend une enquête sur l'idée que se font les patients des traitements dentaires. Cette étude a pour but de diriger l'éducation dentaire du public sur des terrains qu'il ignore et qui sont susceptibles de l'intéresser. Cette enquête est fort bien organisée et révèle des notions bien originales qu'ont certains patients sur nos opérations. Par exemple, quelques patients croient que l'emploi des Rayons-X tend à tuer certaines bactéries de la bouche etc. etc. Des recherches de ce genre entreprises chez nous feraient certainement pâmer d'étonnement, car en général l'éducation dentaire de notre population est en retard sur celle des Américains. Cette enquête se continue tous les mois.

"FRACTURES DE LA MACHOIRE CHEZ  
DES PATIENTS EDENTES", par  
Joseph E. Schaeffer, M.D., D.D.S.

Les fractures des mâchoires, chez les patients édentés, présentent un problème différent des cas où des dents sont présentes dans la bouche; il ne s'agit plus de se servir des dents comme moyens d'ancrage mais d'immobiliser les mâchoires par elles-mêmes.

Le Docteur Schaeffer nous montre ici plusieurs moyens d'obtenir cette immobilisation et préconise la ligature des fragments les uns aux autres au moyen de fils d'argent. Il note cependant que s'il y a peu de déplacement, l'os se soudera de lui-même sans l'aide d'appareil, si on impose une diète liquide au patient.

"LES PONTIQUES DANS LE PONT FIXE",  
par Donald Smith, D.D.S., Hollywood, California, et Harry R. Potter, D.D.S., Los Angeles.

Les lois fondamentales, qui doivent gouverner la fabrication d'une pièce de restauration dentaire sont basées sur la biologie, c.-à-d. qu'elles doivent marcher de pair avec la nature. Toute restauration doit être parfaite aux points de vue anatomique, physiologique, biologique, et mécanique.

Les auteurs nous parlent des relations qui doivent exister entre la dent pontique et la muqueuse; ils nous donnent en outre des conseils fort judicieux sur la fabrication des ponts en général.

"LES RESTAURATIONS DE PORCELAINE  
RENDUES PLUS RESISTANTES PAR  
LE PLATINE", par Fred R.  
Felcher, D.D.S., Chicago.

Cet article traite d'un procédé nouveau employé pour des restaurations en porcelaine, méthode qui comprend l'emploi de métaux platinés dans le but de rendre les restaurations plus solides et amène un changement dans la façon de préparer les piles; ces piles auront ou n'auront pas d'épaulement gingival selon l'exigence de l'esthétique.

Cette nouvelle technique exige que le minimum de meulage de la dent et offre au praticien un moyen d'éviter le craquement des coiffes en porcelaine.

"LA LOCALISATION PARTICULIERE DES  
BACTERIES DANS LES FOYERS  
INFECTIEUX", par Oscar Karpf,  
New York.

L'auteur fait une excellente revue des théories qui ont cours au sujet des foyers infectieux, du transport des bactéries et



leur arrêt sur un des points de l'économie.

Il établit clairement l'importance que le dentiste doit attacher à ces différentes opinions et lui trace une ligne de conduite, basée sur le bon sens.

### *Dental Items of Interest,*

livraison de février 1937.

"LE NETTOYAGE DES DENTIERS ET DE LA LANGUE", par Isador Hirschfeld, D.D.S., New York.

Le Docteur Hirschfeld continue la série de ses articles intitulés "La brosse à dent, son usage et son abus." Ce mois-ci, il nous parle des différentes méthodes en usage pour nettoyer les dentiers complets et partiels. C'est un sujet qui semble élémentaire, mais l'auteur cite quelques cas de lésions récidivistes de la bouche causées par un nettoyage défectueux d'une pièce de prothèse restaurative.

L'auteur traite en détail des affections qui nécessitent une prophylaxie de la langue. Dans des conditions normales, la langue, par la mastication des aliments et sa friction sur les dents et le palais dur, se nettoie d'elle-même, mais dans certains cas, il est nécessaire de recommander au patient le grattage de sa langue.

"LA RESORPTION INTERNE DES DENTS", par Max. E. Soifer, D.D.S., New York.

L'auteur commente la résorption des tissus dentaires, décalcification qui provient de l'intérieur de la dent, sans qu'aucune cause apparente semble déterminer cette condition.

Il y a plusieurs théories pour expliquer ce phénomène, mais aucune ne semble s'adapter à tous les cas; chez plusieurs patients, la teneur de calcium du sang est normale et les os du corps n'ont pas subi de changement. D'après l'auteur, seule une classification des cas observés

pourra amener la lumière sur cette anomalie.

"L'INSULINE DANS LE TRAITEMENT DES FRACTURES ET DE L'OSTEOMYELITIS DES MAXILLAIRES", par Reubin Seldin, D.D.S., New York.

L'auteur a observé que l'ostéomyélite compliquait souvent des cas de fracture composée de la mâchoire et a voulu en diminuer la proportion en donnant des doses d'insuline aux patients. Son traitement était basé sur la théorie qui veut que l'insuline augmente la résistance de l'organisme à l'infection. Il seconda l'action de l'insuline avec du lactate de calcium et du Viostérol. Les statistiques, qu'il publie paraissent donner raison à son traitement.

"QUELQUES CONSIDERATIONS SUR LA REGENERESCENCE DU TISSU NERVEUX A LA SUITE DE TRAUMATISME", par William A. Cook, D.D.S., Détroit.

L'auteur énumère les lois physiologiques qui président à la reconstitution du tissu nerveux, après que celui-ci a été blessé au cours d'une intervention chirurgicale.

"RECHERCHES DENTAIRES", par Withrow Morse, Ph.D., Chicago, et Alfred Walker, D.D.S., New York.

Les auteurs soumettent un plan pour coordonner les recherches qui se font d'un bout à l'autre du pays sur les causes de la carie. Ils constatent avec peine que des travaux de valeur n'ont pas donné les résultats attendus parce qu'ils étaient isolés et sans collaboration.

Les auteurs expliquent en détail la procédure qu'ils préconisent; leur tentative est intéressante parce qu'elle groupe dans une même idée et sous un même principe les recherches entreprises dans des laboratoires différents.

## A la Société Dentaire de Montréal

L'HOTE d'honneur pour la séance de février 1937 de la Société Dentaire de Montréal était le Docteur Théo. Côté, professeur de Matière Médicale et de Couronnes et Ponts, à la Faculté de Chirurgie Dentaire de l'Université de Montréal.

Le sujet de sa communication était: "Le traitement des infections dentaires les plus communes".

Le conférencier commença sa causerie en définissant l'infection, son processus de développement et les moyens que le dentiste possède pour la combattre; ces moyens sont mécaniques (chirurgie), physiques (froid et chaleur) et chimiques (médicaments).

Les infections les plus fréquemment rencontrées dans le cabinet dentaire sont:

- 1) *la carie*—Son traitement est mécanique et les médicaments jouent un rôle secondaire; l'alcool est à conseiller pour la stérilisation des cavités.
- 2) *la pulpite*—C'est avant tout un dérangement de la circulation et il faut en rétablir le cours d'abord; il faut procéder avec lenteur en employant l'eugénol et le thymol en pansements.
- 3) *pulpe gangrenée*—Ne pas extirper la pulpe trop rapidement; la circulation doit avoir repris son cours normal.
- 4) *la périostite*—des révulsifs sont à conseiller.
- 5) *la nécrose à l'apex d'une dent*—le traitement est chirurgical; il faut ouvrir dans la région apicale, curetter, polir le bout de la racine et pratiquer des lavages à l'aide d'antiseptiques bénins.

L'ionisation a certaines propriétés

stérilisantes et l'apectomie n'est pas à conseiller.

- 6) *la gingivite* — Le traitement est mécanique; il consiste dans le curetage des dents et la stimulation de la circulation par un rince-bouche à base d'huile essentielle.
  - 7) *la pyorrhée*—La cause spécifique n'en est pas encore déterminée; le Docteur Côté croit qu'il faut en trouver l'étiologie dans l'organisme et que cet état est aggravé par une prédisposition locale. Le traitement chirurgical s'impose et peut être appuyé par des agents antiseptiques, astringents ou stimulants; l'oxygène naissant paraît être le médicament de choix.
  - 8) *l'Angine de Vincent*—Au tout début, le nitrate d'argent à 10% peut faire avorter cette infection; si la maladie se répand, les médicaments à base de bismuth et d'arsenic peuvent être employés et ils peuvent être appuyés par des agents qui dégagent de l'oxygène naissant, tels que le perborate de soude, le peroxyde d'hydrogène etc.
  - 9) *l'aphte*—Cet état naît d'une condition systémique avariée; de légers purgatifs et la cautérisation avec un crayon de nitrate d'argent, hâte la disparition de la maladie.
  - 10) *les "dry sockets"* — Des lavages tièdes avec un antiseptique benin et des paquetages légers de l'alvéole avec une boulette imbibée d'huile de clou apportent des soulagements.
- Le Docteur Côté fut présenté aux membres par le Docteur A. Plessis-Bélair, vice-président de la Société et remercié par le Dr. Joseph Nolin.

Gérard de Montigny.

Le Comité de Rédaction de la Section Française du Journal de l'Association Dentaire Canadienne offre ses sympathies sincères aux Docteurs Lucien Reeves et Denis Forest à l'occasion de la mort récente d'un membre de leur famille respective.

## Le Coin des Questions

*Quelles classes de patients réagissent mal à l'anesthésie locale faite à l'aide d'une solution de procaine et d'épinéphrine? Pourquoi? Quelles précautions faut-il prendre, quand ces cas se présentent?*

—Les solutions anesthésiques de procaine et d'épinéphrine à l'usage des dentistes sont en général bien tolérées par tous les patients à cause de leur faible teneur de procaine et d'épinéphrine.

La plupart des réactions fâcheuses observées chez les patients sont d'un ordre psychique; le patient appréhende l'extraction et l'injection et cette crainte, chez les nerveux, suffit parfois à produire des manifestations ennuyeuses. L'opérateur tentera par tous les moyens possible de calmer et d'encourager son patient. Une prémédication est souvent à conseiller (bromure ou dérivé barbiturique).

Une injection trop rapide de la solution produit aussi un choc très violent pour le patient; il ne faut pas que tout le contenu d'épinéphrine de la solution soit recueilli par la circulation et arrive en même temps au cœur. L'injection doit être faite très lentement (1 cc par minute). De même si la solution est déposée dans un vaisseau sanguin, on peut avoir des ennuis. (Retirer le piston et constater si le sang s'infiltre dans le baril de la seringue).

Il est cependant 3 catégories de patients qui supportent mal l'adrénaline:

1) Les hypertendus ou les gens souffrant de tachycardie — leur pression sanguine est déjà trop élevée et l'épinéphrine contribue à élever d'avantage cette pression.

2) Les hyperthyroïdiques ou les thyrotoxiques — leur métabolisme basal est déjà trop grand et l'adrénaline stimule leur circulation sanguine; ils sont de plus hypersensibles à l'action de l'adrénaline.

3) Les idiosyncrasiques—ou ceux qui tolèrent mal ou qui ont une susceptibilité propre et particulière pour l'épinéphrine.

Les deux premières classes de patients ne peuvent être reconnues qu'à l'aide d'une consultation avec leur médecin ou qu'aux renseignements fournis par les patients eux-mêmes.

Si le pouls du patient reste au-dessus de 90° après quelques minutes de repos mental et physique, on doit soupçonner que le patient appartient à une des deux classes précitées.

L'emploi d'une solution sans épinéphrine s'impose dans ces cas.

La troisième catégorie de patients ne peut malheureusement pas se reconnaître; seules les aventures précédentes du patient peuvent nous guider.

D'ailleurs ces individus se rencontrent assez rarement.

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*Quel est le traitement le plus effectif pour soulager une alvéolite (dry socket)?*

*Causes:*

1) Extraction laborieuse d'une dent produisant le broyage et l'écrasement de l'alvéole; la superficie osseuse est détruite et privée de nutrition.

2) Emploi d'une solution anesthésique, contenant une trop grande proportion d'adrénaline.

3) Enfoncement forcé d'un tampon dans l'alvéole après l'extraction.

4) Rinsage excessif de la bouche après l'alvulsion, empêchant la formation normale du caillot sanguin.

*Traitements:*

1) Lavages tièdes avec un antiseptique bénin et paquetage superficiel de l'alvéole avec une boulette imbibée d'huile de clou.

2) Cautérisation du fond osseux de l'alvéole avec acide phénique; paquetage

en surface de l'alvéole avec gaze iodo-formée.

3) Faire une pâte à l'aide de: (1) comprimé d'acetophen, (2) eugénol, (3)

glycérine. En enduire une boulette de coton et la déposer dans l'alvéole.

4) Butyn-Metaphen Surgical Dressing d'Abbott.

*Gérard de Montigny.*

## **Suggestions Pratiques**

### *Pour prévenir la chute d'une dent durant le meulage*

Durant le meulage d'une dent "diatorique" au tour de laboratoire, il suffit de passer un fil de métal dans les trous pour prévenir la chute de la dent.

### *Pour enlever la rouille dans l'articulation des daviers*

Mettre quelques gouttes d'huile additionnée de pierre ponce fine et actionner les daviers durant quelques minutes; les laver à l'eau chaude, les stériliser et les bien sécher. Leur usage futur n'amènera aucune trace d'huile.

### *Pour nettoyer les ongles*

Plonger les doigts dans une poudre de perborate de soude et enfoncer la poudre sous les ongles.

### *Pour enlever une racine*

Quand la racine est ébranlée et repose à l'orifice de l'alvéole, la saisir avec une pince hémostatique; les mors rayés préviennent le retour du morceau dans son ancre.

### *Pour développer les pellicules radiographiques*

Un accumulateur d'automobile hors d'usage peut servir de bassinnet pour développer les pellicules; ses diverses divisions permettent d'y mettre les différentes solutions.

### *Pour enlever facilement un modèle d'un articulateur*

Avant de poser les modèles sur l'articulateur, enduire leur surface supérieure ou inférieure, selon le cas, de cire (paraffine) en laissant libre le bord périphérique (environ  $\frac{1}{4}$  de pouce).

### *Tissus Buccaux*

Si la muqueuse gingivale doit être badigeonnée avec de la teinture d'iode ou de métaphène lors d'une injection analgésique, une bonne habitude à contracter est de badigeonner aussi le collet de la dent et les tissus avoisinants. Nous aurons ainsi un champ opératoire aseptique.

### *Glycerine*

La glycerine est un bon antiseptique, utile pour stériliser les instruments d'acier dont il faut conserver la trempe et la surface. Comme elle bout à 120° F., les instruments y sont stérilisés en quelques minutes et peuvent y demeurer sans dommage plusieurs heures. Loin d'endommager les tubes de caoutchouc la glycerine leur rend leur première élasticité.

### *Pierre à Aiguiser*

Une solution concentrée de Lysol enlève les taches d'huile ou de graisse sur les pierres à aiguiser et les tables de marbre.

### *Brosse à Dents*

Après s'être lavé les dents, la brosse à dents est rincée soigneusement à l'eau courante et est couverte de chlorure de sodium. A l'humidité les cristaux de sel sont dissous et pénètrent entre les soies. Ensuite la brosse est accrochée à l'endroit habituel. L'eau s'évaporant laisse entre les touffes de soies une quantité suffisante de cristaux de chlorure de sodium pour empêcher les microbes de vivre. Avant d'employer à nouveau votre brosse secouez la pour ôter l'excès de sel puis servez-vous de votre dentifrice.

*Paul E. Portias.*





*To their Majesties King George VI. and Queen Elizabeth, upon their accession to the highest positions of State in the world's greatest Empire, and on this memorable occasion of their Coronation, May 12th, 1937, the Dental Profession of Canada extend their respectful and loyal congratulations.*

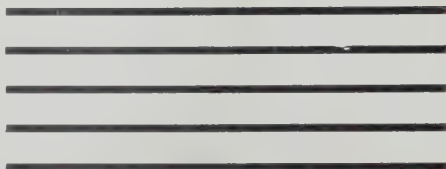


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## *The Fundamental Principles, Design and Construction of Bridge Prosthesis*

by IRVIN H. ANTE, D.D.S. Toronto, Ontario

**T**HERE is no work in dentistry that gives more satisfaction both to the operator and the patient, than the restoration to health and beauty by a properly designed and constructed artificial restoration, whether it be fixed or removable.

Most of the present day forms of artificial work and methods of construction are adequate, but the only value of any method lies mainly in its range of application, and it is largely the operator's limited knowledge or over-enthusiasm of the possibilities of the work that dooms it to failure.

We must recognize the fact that the trouble is often the lack of correct fundamental principles, and every operator must be willing to take up post-graduate and research work, that he may perfect himself in those things in which he is unskilled.

Some of the reasons for failure in our prosthetic work may be listed as follows:

- (1) Faulty and unattempted diagnosis and prognosis.
- (2) The attempt to connect rigidly together too many teeth of different functional activity.
- (3) Failure to remove foci of infection.

- (4) Inattention to treatment and care of investing tissues and mouth sanitation.
- (5) Disregard for tooth form.
- (6) Absence of proximal and interproximal spaces and proper embrasures.
- (7) Uneven distribution of retention and stress.
- (8) Insufficient saddle area.
- (9) Insufficient retention of the abutments.
- (10) Faulty occlusion and articulation.

Before attempting to construct any restoration, some definite routine should be followed, to determine the factors which go to make up a correct restoration.

To study all these important factors one should have:

- (1) Study models.
- (2) Charts of the teeth showing fillings, crowns, etc., everything being recorded as it exists in the mouth.
- (3) The patient's history, habits and temperament.
- (4) A set of x-ray pictures.
- (5) Vitality test of the teeth, especially those likely to be used as abutments.

- (6) A consultation with a physician or dentist.

One should have a correct surgical diagnosis that will maintain the health of the patient. This should call for the removal of roots and pathological tissues that are a menace to the health of the patient.

#### PHYSIOLOGICAL ESSENTIALS

There are a number of physiological essentials that will assist in maintaining the health of the supporting tissues. Factors such as the number of teeth present, their location and firmness, their root length and thickness, the condition of the gum tissues, the amount of bony attachment, and the stress of occlusion are all important. In addition, the foundational resistance should be greater than the occlusal stress. The teeth employed as abutments should include only those of similar movement. A straight alignment is more favourable than a curved one, especially in fixed restorations. Leverage should be carefully studied and reduced to a minimum. No form of restoration allowing gold to come in fixed contact with the soft tissues should be used.

The scientific requirements, that determine the procedure necessary to proper design and construction of the different parts, will be considered later.

#### REMOVABLE BRIDGE WORK

It is true that nature does not tolerate either absolute fixation or too much movement of any tissue in the body which moves in function, and that where this condition continues indefinitely degeneration and atrophy follow; also, these movable tissues require a certain amount of exercise and stimulation in order that health may be maintained.

Removable bridge work is a useful method of procedure when indicated and the application may be made skillfully but, unless all of the technical

details of construction are well executed, it will do as much injury to the supporting teeth and tissues as will result from the use of any other method of replacing missing teeth. The advantages that removable bridge work possesses over fixed bridge work are as follows:

- (1) The replacement of missing teeth may be combined with the restoration of lost tissues in a manner that fulfils the highest requirements of sanitation.
- (2) The normal functional activity of the abutment teeth is restricted to a minimum.
- (3) The underlying mucosa is stimulated to functional activity by intermittent pressing by the saddle.

#### FIXED BRIDGE PROSTHESIS

Since the wave of cast removable bridge work has passed, there is a strong feeling to return to fixed bridge work. This is especially true in nearly all cases where one or two teeth are missing. While we erred greatly in the past by making too many large structures of a fixed type, there are, and I think always will be, many places for a fixed bridge when teeth of similar functional activity are involved, even in larger structures, providing that conditions are favourable and sanitation can be maintained.

It is true that nature does not tolerate absolute fixation or too much movement of any tissues in the body which move in functioning, and that when this condition continues indefinitely, degeneration and atrophy follow; also these movable tissues require a certain amount of exercise and stimulation in order that health may be promoted and maintained.

Clinical evidence, extending over a period of many years, has proven conclusively that the teeth will withstand and will tolerate a burden of stress in excess of normal functional demands.



When fixed bridge work is well designed, well built, and properly adapted, absolute movement of the teeth is practically impossible, and then the investing tissues will tolerate partial movement. The extent to which they may be expected to assume this additional burden and the duration of toleration must be within the limits of reason.

Fixed bridge work is indicated and may be used successfully whenever the application may be made under favourable conditions and within reasonable limitations. Health must exist in all the teeth which are to be used as abutments; also thorough knowledge of the foundational factors and technical principles should be observed throughout its design, construction and application. Only then is fixed bridge work a rational and successful method of supplying missing teeth.

The distribution of the abutment teeth is important and usually the number of abutment teeth should be equivalent to the number of missing teeth to be supplied, or the combined pericemental area of the abutment teeth should be equal to, or greater than, the pericemental area of the teeth to be supplied. This rule is not imperative, however, because the strength of the abutment teeth, in their relation to the requirements of stress, is the controlling factor in all cases.

The ideal fixed bridge is that restoration which can be designed so that the teeth employed as retaining abutments shall include only teeth of similar functional activity; that is, posterior restorations shall be retained by posterior teeth only, and the cuspids and anterior restorations by anterior teeth only.

#### ABUTMENTS

The different teeth to resist stress when employed as abutments are placed in order according to their pericemental area: first molars, second molars, cuspids,

bicuspid and upper centrals. The lower incisors, upper laterals and the third molars should only be employed when you have no alternative.

With a few exceptions there should never be more than two retaining abutments united together to form a fixed bridge unless the abutment teeth perform similar functions.

When supplying one tooth involving the posterior teeth, absolute fixation at one end only and a strong recess rest at the other end in the supporting inlay will usually prove adequate, insofar as stability is concerned, and advantageous to both abutment teeth by permitting them to function more or less independently of each other. The retaining abutment should be on the stronger of the two teeth and the occlusal rest upon the supporting abutment, should be large and interlocking, to give stability to the restoration and inserted along the line of occlusion to prevent tipping.

If wire is employed as a supporting rest upon the lingual enamel of the adjacent tooth, it should be constructed of half round or oval wire and resting upon the supporting tooth on the point or line contact, but never on the surface contact.

#### ABUTMENTS ON VITAL TEETH

The requirements of an abutment on vital teeth are as follows: (1) minimum tooth mutilation, (2) non-irritation to soft tissues, (3) successfully employed on vital teeth, (4) protection to the pulp against thermal and galvanic irritation, (5) one that will protect the tooth against fracture, (6) one the average dentist can prepare and construct, (7) aesthetic in appearance, (8) readily cleanable, (9) of a form suitable for successful cementation, (10) one possessing strength and durability with thin but tough castings, (11) correct anatomical restoration of tooth form, (12)

sufficient extension of preparation to prevent decay, (13) closely fitted and adapted to prevent mechanical irritation, (14) parallel axial walls which will permit withdrawal of the abutment and will afford maximum of frictional retention to prevent displacement.

We have tried to develop something the average dentist can construct and I wish to emphasize that if an attempt is made to prepare some of the small inlays or slim preparations there will be a very small percentage which will be adapted properly. I would strongly suggest that when in doubt employ as retaining abutments the gold crown and three-quarter crown on molars, and the three-quarter crown on cuspids and bicuspid, and the pin slipper abutment or the three-quarter crown on the anterior teeth.

When the upper central is lost the ideal restoration if conditions are normal is shown in Fig. No. 1.

A. The retaining abutments are placed on both the lateral and the central (3 pin slipper or  $\frac{3}{4}$  crowns) and a porcelain rooted pontic inserted and soldered to both ends, making a three-piece bridge.

B. If the central abutment tooth has a large strong root, light occlusion, re-truded or protruded bite, or an artificial denture below, then the lateral incisor may be employed as a supporting instead of a retaining abutment. The mesial lingual inlay should be large and firmly seated to resist displacement from the pull of the dovetailed lingual rest, which is constructed as a part of the pontic.

C. If the operator or patient does not wish the central cut into, or it is a very small crowned tooth not permitting sufficient anchorage, the lateral and cuspid may be employed as retaining teeth, employing as abutments a three-quarter crown on both or a three-quarter crown on the cuspid and a three pin slipper on the lateral, soldered together to form one abutment. The porcelain rooted pontic is



Figure 1

attached to the lateral abutment and a half round or oval wire lingual rest is placed upon the lingual enamel of the central. The inlay and dovetailed rest as shown in Fig. B might be employed to good advantage. Note that the lateral will not support a missing central.

D. For a short-lived bridge, economic reasons or temporary restoration, the operator might construct a bridge attachment, employing only the central as a retainer and resting the free end of the attachment on the lingual enamel of the lateral. The pontic used would be a facing. There is too much movement in this bridge for porcelain rooted pontics.

E. Some patients object very strongly to a display of gold in their front teeth but would not object to lingual inlays

concealed from anterior view.

In this case the cuspid might be a dead badly broken down or a filled tooth, lending itself very favourably to be employed as an abutment, while the lateral and central are real good teeth with probably small fillings. The lingual bar is soldered to the lingual gingival surface of the cuspid  $\frac{3}{4}$  crown and resting upon the mucosa between the rugae and soldered to the lingual surface of the central facing. Large dovetailed lingual rests are employed and deeply seated into well fitted mesio-lingual inlays in the central and lateral.

The lingual bar is oval 14 x 19 gauge, high tensile wire, or gold elastic wire.

Note: The lingual rests are cut into the inlays at right angles to the lingual surface, so that when the bridge is in place these rests lock the pontic into place and cannot be dislodged by a pull from sticky food. When cementing, the proximal inlays are first cemented to place, then the bridge unit. The pontic facing is the last unit of the bridge to be cemented. There is too much movement of pontic in this type of bridge to employ porcelain roots.

The lateral incisor is probably the most satisfactory tooth to restore with a fixed bridge, because the adjacent teeth are both stronger and of greater pericemental area than the missing neighbour. (Fig. 2.)

Either the central or cuspid might be employed as the retaining abutments but the cuspid should be used in preference to the central. A. and B. show two ideal ways of restoring the lateral when the porcelain rooted pontic is used, and C. and D. if facings are used. Easily 75 per cent of the present day restorations are constructed as illustrated in C.

In the gold crown days before the casting process became general practice and the patient objected to gold crowns on anterior teeth, the lateral was success-

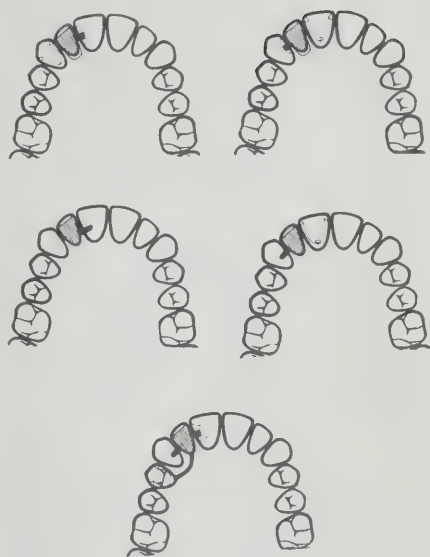


Figure 2

fully restored by placing a gold crown on the first bicuspid and employing the lingual wire as shown in E. Lingual rests were placed on both the lateral and the central teeth. Today this same restoration is very successful by placing a  $\frac{3}{4}$  crown on the first bicuspid and a well-seated disto lingual inlay in the central as a supporting abutment with a dovetailed lingual rest, and a lingual rest on the enamel of the cuspid.

The lingual wire is soldered to the lingual surface of both the retaining abutment and the pontic. A porcelain facing is employed for the pontic.

When the cuspid is lost we are compelled to employ teeth as retaining abutments that have different functional activity. If both teeth are connected to form a three-piece bridge the lateral and the bicuspid both co-act against each other and yet neither tooth in itself is sufficiently strong to support the cuspid as a pontic. (Fig. 3.)

A. illustrates a three-quarter crown on both the lateral and the first bicuspid. A porcelain rooted pontic is used for

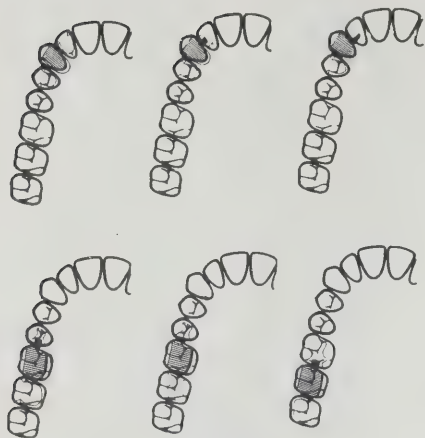


Figure 3

restoring the cuspid.

B. illustrates the cuspid porcelain rooted pontic soldered to a three-quarter crown on the bicuspid and a large dovetailed lingual rest in the supporting inlay abutment in the lateral. The cuspid pontic should be kept free of occlusion.

C. because of economic, temporary or expedient reasons, the cuspid might be restored by placing a three-quarter crown on the bicuspid and using an oval wire lingual rest upon the lateral. Employ a facing for the cuspid pontic and keep it free of occlusion.

The first molar is one of the first teeth to be lost and constitutes about fifty per cent of our replacements for one tooth missing. A very satisfactory bridge may be constructed by either method as illustrated in D. or E.

D. The second molar is used for a retainer, employing for the abutment either a three-quarter crown or a full gold crown. The second bicuspid is used as a supporting abutment tooth with a firmly seated fully extended disto occlusal inlay with a dovetailed inlay rest in the disto occlusal surface.

E. The second molar and the first bicuspid are teeth that perform the same functional activity, therefore these two

teeth may be safely connected rigidly together to form a three-piece bridge. B. illustrates two proximal occlusal inlays as retaining abutments in the second molar and bicuspid. Be sure the retaining abutment inlays have sufficient retention to resist displacement. The bicuspid abutment should be equal in its retention to that of the molar, otherwise it will be displaced during the process of mastication.

The first molar pontic is sano pontic type and its occlusal surface should be reduced bucco lingually to about 80 per cent of its original width.

F. If the operator feels that a second molar replacement is necessary it might be satisfactorily restored by placing a gold crown upon the third molar and resting the anterior end of the bridge on the distal surface of an inlay placed in the disto occlusal surface of the second molar. This type of restoration lends itself to the extraction of the third molar and the bridge without any sacrifice or upset in the second molar inlay.

Fig. 4 illustrates the first bicuspid and also the second bicuspid lost individually. The replacement of either of these teeth makes a very satisfactory bridge, because the adjacent teeth if employed as retain-

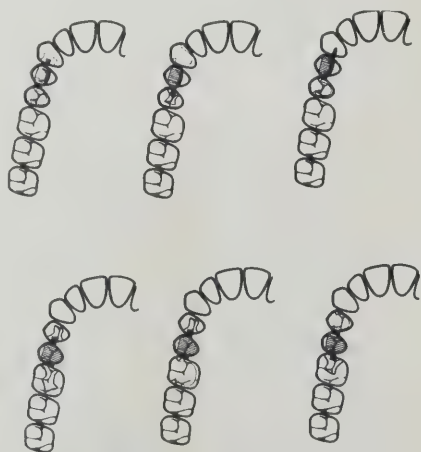


Figure 4



ing abutments are strong enough to withstand the additional stress to which they will be subjected.

A. The ideal restoration is to employ the second bicuspid for the retainer and the cuspid for support, using the three-quarter crown as an abutment on the bicuspid and the disto lingual inlay as the supporting abutment in the cuspid.

B. The retaining abutment tooth and the support might be reversed as illustrated in B. The cuspid is the retainer and the second bicuspid the supporting tooth. The pontic for either design should be porcelain rooted with the occlusal surface reduced bucco-lingually to about 75 per cent of the original width.

C. To replace the first bicuspid the operator often employs the second bicuspid as the retaining abutment tooth, employing a three-quarter crown as an abutment, and then attaches a facing to it, with an oval wire rest upon the lingual surface of the cuspid.

This type of restoration should not have restoration of the occlusal surface or be in occlusion. It is constructed for appearance only. D., E. and F. illustrate the replacement of the second bicuspid which is practically the same as the replacement of the first bicuspid except that the first molar is a much stronger tooth than the bicuspid to employ as a retaining abutment. The restoration can be made very satisfactorily in any of the three methods as illustrated in D., E. and F., and the full occlusal surface might be restored.

#### TWO TEETH MISSING IN SERIES

When restoring two or more teeth out in series, retaining abutments should be employed at both ends of the space. In some combinations it is necessary to employ three teeth as retaining abutments while in other combinations supporting abutments might be used instead of a third retainer. (Fig. 5.)

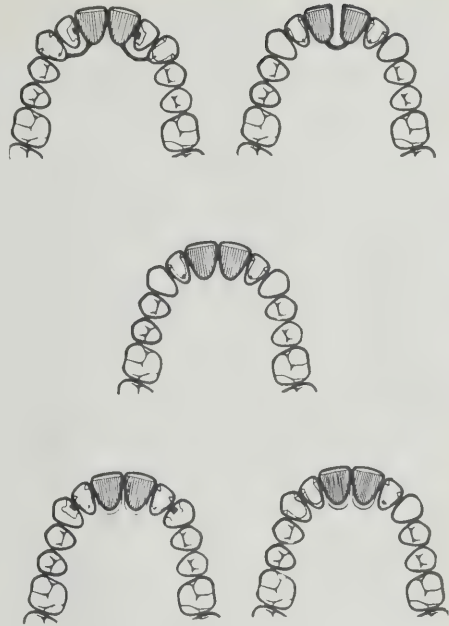


Figure 5

There are very few inlay abutments possessing sufficient frictional retention to displacement to be employed as retaining abutments, when two or more teeth are out in series. The three-quarter crown, the three pin slipper and the gold crown are usually employed as retaining abutments.

The ideal restoration for two upper centrals missing, is shown in D. The laterals are not sufficiently strong to retain the centrals, therefore we extend our retention to the cuspids, employing mesial lingual inlays with dovetailed interlocking rests. This combination of retaining and supporting abutments will prevent the laterals from drifting labially, caused by overload. Porcelain rooted central pontics are employed.

E. Another method of assisting the laterals to support the central pontic is to select one of the cuspids and employ it as an abutment. The cuspid selected will be adjacent to the weaker of the two

laterals. The cuspid and the lateral retaining abutments are soldered together in the region of the contact point. (Porcelain rooted central pontics are employed.)

When preparing these teeth for abutments make sure they are all parallel to each other. The parallel relation of anterior teeth to one another is very deceiving when observed in the mouth, therefore it is wise to first carve the preparation on the study model to determine how much cutting is required to make them parallel.

C. The lateral incisors will retain the two central incisor pontics if there is a retruded or protruded relation or an artificial denture occluding with the bridge. Check the contact between the lateral abutments and the cuspids every six months to make sure there is no drifting labially of the bridge. (Porcelain facings are employed for the central pontics.)

A. illustrates two three-quarter crowns on the cuspids and two mesio-lingual inlays in the lateral with dovetailed interlocking lingual rests. Fourteen gauge oval high tensile wire is soldered to the lingual gingival margin of the cuspid abutments and the lingual surface of the central facings. (No porcelain rooted pontics.)

This type of restoration is employed if the teeth adjacent to the space are irregular, protruding or spaced. The laterals cannot be prepared parallel to the cuspids, but the cuspid abutments can be prepared parallel to each other.

B. If you wish to reproduce a separation between the central pontics, this can be accomplished by soldering a piece of fourteen gauge oval wire to the mesio-lingual surface of both the central pontics, placing the bar in a position hidden from view. Employ facings for the pontics. (Illustrated in E.)

If necessary to secure additional abut-

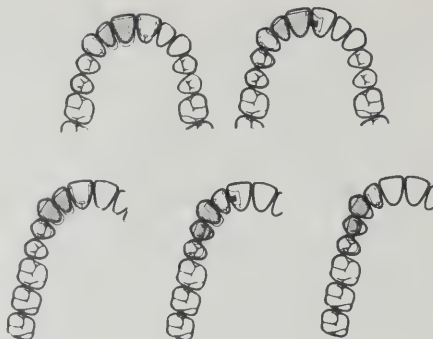


Figure 6

ment strength, employ the cuspids as retaining or supporting abutments as illustrated in A. and B., and then employ porcelain rooted pontics.

A. (Fig. 6) illustrates the central and lateral missing, two three-quarter crowns on the adjacent teeth will satisfactorily retain this restoration. (Porcelain rooted teeth may be employed as pontics.)

B. illustrates another method of restoring these two teeth missing. Two posterior teeth are employed as retaining abutments and the anterior end of the bridge supported by a lingual interlocking rest in the central mesio-lingual inlay. This central tooth might be irregular, protruding, tilting or no display of gold desired by use of larger abutments.

C. The lateral and the cuspid are lost. The two adjacent teeth perform different functional activity, therefore they should not be connected rigidly together to form a fixed bridge, but if we construct a bridge as illustrated, the cuspid should be kept free of occlusion.

D. The cuspid and the first bicuspid are missing and the lateral abutment does not perform the same function as the second bicuspid abutment, but if we keep the cuspid free of occlusion and employ the central to support the lateral abutment, a fixed restoration with porce-

lain rooted pontics will prove to be quite satisfactory.

E. This is the same restoration as in D., but the lateral is not supported by the central, therefore keep the pontics free of occlusion. Use only facings and do not restore the occlusal surface of the first bicuspid.



Figure 7

#### TWO POSTERIOR TEETH MISSING IN SERIES (FIG. 7)

When combinations of posterior teeth are missing and we have the cuspid or bicuspids for our anterior abutments, a fixed bridge is a very useful and satisfactory way of restoring these posterior teeth. All of the abutment teeth have similar functioning and equal pericemental area as the teeth to be restored.

A. illustrates restoration being made by using two three-quarter crowns as retaining abutments, while B. illustrates a three-quarter crown on the cuspid and a larger mesio occlusal inlay with an interdental pin in the distal to secure equal retention to the molar as that secured in the cuspid. Porcelain rooted teeth may be employed in the construction of the pontics.

C. If the restoration of the two bicuspids is for appearance only, facings are

employed without the occlusal surfaces being restored. A three-quarter crown on the first molar and a disto lingual inlay with interlocking lingual rest on the cuspid will afford sufficient retention and support for this type of bridge.

When the second bicuspid and the first molar are lost a three-quarter crown on the anterior abutment, and either a gold crown or a three-quarter on the second molar should be employed as retaining abutments, as illustrated in D. and E.

The occlusal surface of the first molar pontic should be reduced to the same area or less than that of the second molar.

F. This illustrates the restoration of the first and second molars. Reduce the occlusal surface area of the pontic to about 70 per cent of their normal buccolingual width.

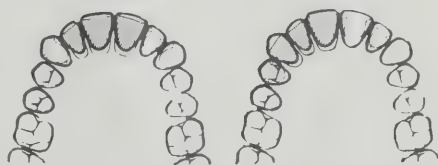


Figure 8

In Figure 8 we have three teeth missing in series and one tooth interference. Most combinations of three teeth missing have as the adjacent abutments, teeth, one of which is strong and heavy rooted, and the other being a weak or light rooted tooth, therefore it is necessary to secure extra retention and support, or lighten the stress of occlusion upon the end of the weaker abutment.

In any three tooth combination bridge which forms an arc of a circle and not a straight alignment, the operator should attempt to keep the centre pontic free of occlusion to minimize the leverage upon the retaining abutment teeth.

A. When three teeth are missing in the anterior part of the mouth with one tooth interference as in A., it is often wiser to design two separate bridges and construct a four tooth bridge from cuspid to central, the lateral being attached to the cuspid and supported by the central, thus allowing the retaining abutment teeth to function more or less independently, instead of binding all together in one solid six tooth bridge.

B. Both centrals and one lateral are lost, the lateral and cuspid retaining abutments are not sufficiently strong to retain this bridge, but if the other cuspid is included as an extra retainer, a fixed bridge will give a reasonable amount of service.

C. When the cuspid is included in a three tooth combination not in series, the retaining abutment teeth perform different functional activity. The construction of a straight alignment bridge is impossible.

If a fixed bridge must be constructed to make a restoration, then extra retention should be secured as illustrated in C.

Place three-quarter crowns on the central and lateral and also on the first bicuspid. Keep the cuspid pontic free of occlusal stress. This bridge is designed with the idea of making it an anterior bridge and relieving the abutments, if possible, of posterior functioning. One might experience difficulty in paralleling these three abutment teeth.

A. (Fig. 9) is a three tooth combination bridge designed to function as a posterior restoration, therefore the first molar and second bicuspid are employed as the posterior abutment and the central

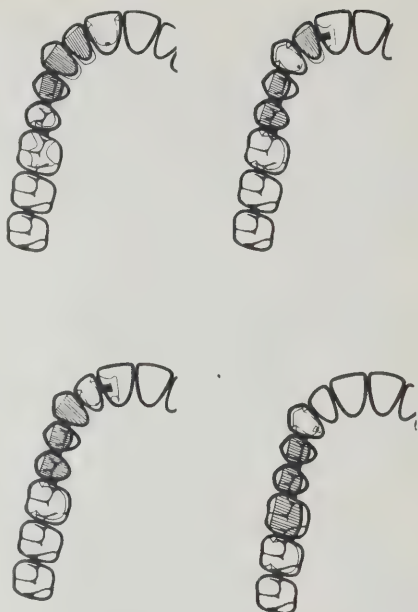


Figure 9

as the anterior abutment. The cuspid and the lateral pontics are kept free of occlusal stress. The occlusal surface of the first bicuspid is restored to about 75 per cent of the bucco-lingual diameter.

B. This combination of teeth missing is about the only fixed restoration that offers sufficient support in two abutment teeth to carry three teeth missing. The cuspid and the first molar will stand this stress, if some support is secured at the anterior end of the bridge to assist in preventing slight buccal drifting.

C. The cuspid and both bicuspids are lost. The first molar and lateral are a very poor choice for retaining abutments and if a removable restoration can be inserted it is the wiser choice.

A fixed bridge might be constructed with a three-quarter crown upon the molar and also the lateral and central if these three teeth can be prepared parallel to each other. If this is not possible the central might be employed as a supporting abutment with a disto-lingual inlay



and carrying an interlocking lingual rest, as illustrated in C.

In both designs of bridges the first bicuspid and cuspid should be kept free of occlusal stress but the second bicuspid occlusal surface might be restored to nearly normal size.

D. The cuspid and second molar will under normal conditions carry the first molar and both bicuspid pontics in a fixed bridge.

The occlusal surface area of the three pontics should be reduced to about 60 per cent of the normal bucco-lingual width.

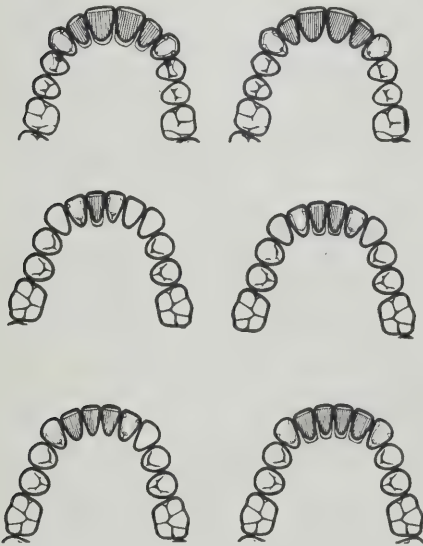


Figure 10

In A. and B. (Fig. 10) the anterior upper four incisors should never be restored by a fixed restoration unless the ridge is full or prominent and by the normal absorption after extraction of this ridge. Only then will the appearance of the patient be improved and not marred if a fixed restoration be inserted.

A. The cuspids are not sufficiently strong to retain the four anteriors. There is a tendency to labial drifting and to prevent this the first bicuspids are em-

ployed as supporting abutments with mesio-occlusal interlocking rests seated firmly into the bicuspid inlays.

B. The anterior six tooth bridge might be constructed as in B., as a second choice if the force of occlusion is such as to exert practically no pressure upon the bridge as an artificial denture below, retruded or protruded relation.

When teeth are lost in the lower jaw we have almost the same conditions existing as in the upper, except that there is a greater tendency to mesial and lingual drifting and more irregular teeth to employ as abutments.

All lower bridges are designed practically the same as upper bridges except in the anterior part of the mouth.

C. and D. When one or both lower central incisors are missing the two teeth adjacent to the space should be employed as retaining abutment teeth.

E. If three lower incisors are missing which is rare (without the fourth) and if the lateral is good enough to leave in the mouth, the cuspids and the lateral will retain a bridge supplying the three missing teeth but it would be better dentistry to employ both cuspids and the lateral as retaining abutments.

F. The two lower cuspids will satisfactorily retain a bridge restoring the lower four incisors.

It is true that in the past too many large restorations were constructed of a fixed type when sanitary conditions could not be maintained. (Fig. 11.)

If we have two cuspids and two second molars present in the upper, what type of removable restoration can you design and construct that will retain these teeth in the mouth as long as the old-fashioned gold crowned fixed bridge?

In the days when it was impossible to construct fixed work that would remain in a sanitary condition in the mouth, we taught it and constructed them.

Today with our porcelain rooted pon-

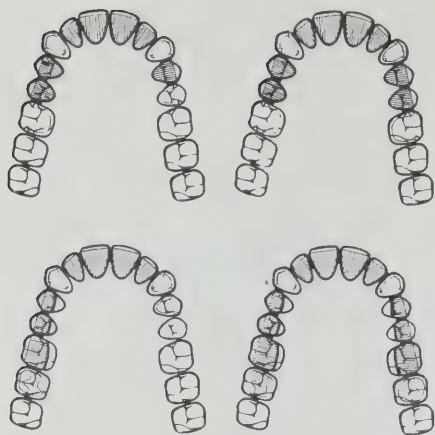


Figure 11

tics, sana-pontics, etc., also tough casting gold, expanding casting technique, and everything to make a sanitary and satisfactory large fixed restoration, we follow the line of least resistance and pass up a real fixed restoration for a removable substitute.

A. Presents seven teeth missing, leaving for retaining abutments teeth that perform the same functional activity—the two cuspids, a first molar, and a second bicuspid. These four teeth will carry the seven missing teeth forming an eleven tooth fixed bridge, providing they can be satisfactorily paralleled to each other.

Both the first molars might be employed as retainers, if the operator felt that the second bicuspid did not possess sufficient strength to withstand the stress.

B. As illustrated in B., we have ten missing teeth. The cuspids and first molars will give us sufficient support for a well balanced restoration of a fixed type.

The operator should experience very little difficulty in paralleling four three-quarter crowns on these abutments, if they are in average normal position.

A fixed restoration will give to the patient less interference in speech, taste, and to the tongue. It will also give security and confidence to the elocutionist, the public speaker, the radio announcer, the actor, the instrumentalist, and the very nervous, highly strung patient.

The combinations we have illustrated in C. and D. are not as favourable. The right cuspid standing alone in C. will have a tremendous load to carry with three posterior teeth missing on one side and four anterior teeth out on the other. If there is an artificial denture occluding and the occlusal surface of the bicuspid and first molar is reduced to about 60 per cent of normal width, then under these conditions the cuspids in both illustrations might survive the stress and strain for a reasonable length of time, but the toleration of this stress must be within the limits of reason.

D. Do not think the writer is wholly in favour of fourteen tooth, fixed bridges, but there are times under certain conditions that make it advisable to employ a fixed bridge. The operator must acquaint himself with all the different forms of restorations and select carefully and wisely the one in his judgment which will give the best service and prevent needless sacrifice of tooth tissue, gingival irritation, and traumatic injury.

918 Medical Arts Building.

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*Sickness and industrial accidents in the United States in 1929, according to an estimate by officials of the Public Health Service, cost approximately ten billion dollars.—U.S. NEWS, Dec. 21, 1936.*

# Noble Profession

by EDWARD SAMSON, L.D.S.R.C.S. Eng., F.C.S.

AS A form of reading I dislike the dictionary—it is far too jerky. I find the same complaint against the telephone directory and that is why I usually confine my literary recreation to works of higher merit. Another reason why the dictionary annoys me—even as a book of reference—is its cunning habit of insidiously seducing me from my original intentions; and I hate my intentions being thwarted. This is what usually happens, and it terrifies me into a realization of my weakness and moral cowardice. . . .

For example, I hope to look up the word *single-stick* because I am not sure of its meaning, though I can guess—for dentists have much guessing to do and are quite able guessers. But long before I reach *single-stick* I find myself attracted by *linear*, *loadstone* and *logic*. Manfully I plod on in my quest of *single-stick*, only to be led away, *en route*, by such delights as *Laputan*—the flying island, and *Nictitation*—the scientists' happy word for winking. Ultimately, after travelling the devious paths of *photolithography*, the *presces* and *retroussage* I come, a little wearily, to *single-stick*—and by then I don't care. That is my usual acquaintance with the dictionary.

Recently, however, I was forced by quite unexpected circumstances straight to the words of my seeking, to wit—*noble* and *profession*. And this is how it happened. I had published an article in a dental journal in which I pleaded for a more co-ordinated system of dental research, hoping thereby to stimulate my colleagues into some activity in the matter of dental disease. I emphasized the appalling cost of dental disease to Western nations, its ubiquitous and in-

sidious character, and its evil effects on national health, pleading finally for an investigation and reconstruction of our present research methods in the hope that light might be thrown upon a way to rid the civilized world of its greatest scourge. A happy thought; and one which I imagined would, at least, produce the latent idealism of a closed profession. Hope springs eternal—even in the dental breast. Much to my surprise (and I am used to many surprises from dentists) my article had no such effect. A few kindly men, it is true, wrote to congratulate me on my scheme, though even they tempered their felicitations with a pessimism that despaired of my hopes ever being realized—we are a gay-hearted crowd, to be sure! But the majority of my correspondence was the cause of my astonishment. Dentists from all parts of the world—excluding Tristan da Cunha, where they are not needed—wrote to me in tones of pathetic misery. What did I think would happen to dentists if we ever discovered a prevention for dental disease? This was the sentiment of their cry—the monotonous note of their mean wailing. Poor things! how they must have suffered to think that there was the remotest chance of losing their bread-and-butter fillings. Unhappy creatures! I can see them shaking at the knees as they visualize a world rid of its lucrative dentures, devoid of its gilded bridges and pocket-lining jacket crowns. Miserable dentists! aching in every pocket at the mere prospect of such a tragedy, their myopic eyes wide with fear; their varicose legs giving way beneath them.

I did not bother to reply to their anaemic squealing. I did not attempt to

show them that if a prevention or cure for dental disease were ever found, dentists, for once in their age-old career, would be justifying their existence. Nor did I trouble to point out to these men that such a state of affairs would place dentistry in the realms of the healing art, a position to which it so fervently aspires—but has never reached. Nor did I make any effort to straighten their twisted minds with tales of Pasteur, Banting, Koch or Jenner. To them their only interest was how Horatius kept the bridge. I could have told them that a cure for caries and a prevention for pyorrhoea would have rid dentists, for ever, of the impediment of being just craftsmen—just *plombeurs*, freeing them from slavery of the handpiece and probe.

I could have done all this, and more, but the devertebrated fellows would never have understood. Their bank balances are far too much like malignant tumours upon them, sapping their vitality. Instead of attempting to show them how to replace the way of all flesh with the way of research I rushed to my dictionary, there to discover the literal interpretation of the words—*noble* and *profession*.

I first attacked *profession*—and why not?—it needs it, badly. My dictionary informed me thus:

*Profession; the art of professing; open declaration; pretence; an employment not mechanical and requiring some degree of learning; . . .*

There was a great deal more, but that was enough. What a revelation! And that is the word applied to dentistry as it stands to-day. *The art of professing*—we certainly have developed that to the last degree of perfection. We profess to save carious teeth—and we do; long enough for them to develop pyorrhoea. Then we profess to have a good reason for removing them, following this with professions of ability to make artificial

teeth as natural and efficient as the ones nature produced. But we forget to profess knowledge of hundreds of old people chewing quite well on their gums. We overlook the profession of our desire to make what we can while we make the dentures. And we never, never profess how lamentably incapable we are of preventing the whole tedious program of life-long filling, extracting and replacing. We just continue to profess, because we believe that profession is good for the body no matter how much better confession is for the soul.

*Pretence*—the next description of profession. That is far too delicate a matter for comment. Let the dentists who wonder what will happen to them when we find a cure for caries find their own explanation of that. I know it—you know it. Let us hope that they will know it before it is too late.

*The employment not mechanical*: Mr. Webster, who compiled my dictionary, must have finished his magnificent work long before dentistry reached its present glorious state. A million dentures a year, at least, flow out of our little vulcanite factories—nearly as fast as the manufacture of cars and wireless machines. We have managed brilliantly to keep abreast of the modern enthusiasm for mass production. Those of us who cannot manage satisfactory prophylaxis can now achieve factory prosthesis. But what of the profession—an employment not mechanical? O shade of John Hunter! Oh, Mr. Webster!

*. . . And requiring some degree of learning*. Here Mr. Webster is surely punning. Some degree of learning means, in the context of our learned calling, any degree that can be granted by any authoritative body to enable anybody, not a moron, to practise his craft upon a public that must seek his aid, *faute de mieux*. The degree is not specified nor the learning limited. Just as





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THE GREAT FEAR

long as so many academic facts can be forced into the dentist's head to find their way out of ten nimble fingers which shall eternally fill the teeth they cannot save, and extract the ones they cannot fill—just as long as that is possible the degree and its learning are sufficient.

But enough of *profession*. It is a distasteful word and not at all euphonious, and it might induce one to become bitter. Let us proceed to *noble*. This, my dictionary informs me, means *illustrious; high in rank or character; magnificent; generous; excellent . . .* and numerous other qualities that many ordinary men might covet and which the professions have already annexed as theirs by Divine

Right. It would disturb the frock coats of many an established dental society if I were to discuss the relevance of these adjectives to their particular state of mind. And I am sure that my remarks would only cause a mild flutter on the butterfly collars of many amalgam-mixing practitioners. But before we leave nobility for ever with its rather unfortunate meaning, let me cite one more description from my disturbing dictionary. Noble is also an *obsolete gold coin*.

This is really the final blow.

Yet, when we conjure up visions of those masterful gold inlays of the ancient Mexicans and turn a mental eye upon the supreme craftsmanship of the dentists of

a distant Egypt, a vanished Greece, a forgotten Etruria, Assyria and Hindustan—when we look back upon the work of those ancient dentists and then upon the products of our daily toils, performed so much worse with far superior equipment, perhaps we may find the description not so lacking in point. Yes—an obsolete gold coin. So far have we travelled in our methods, yet withal, no further from caries. I often wonder whether there is not more decay among dentists than among their patients.

I must apologize for this outpouring.

Perhaps, after all, it would have been better had I not alighted at once upon the two words I sought in my dictionary. Happier it would have been had I fallen a victim to my usual digressions and wandered down some verbal bypath to indulge my fancies among the words I had not meant to meet. I might still have been browsing thoughtfully over such amiable things as *visions*, *idealism*, *hope* and *sincerity*, instead of having met those two such damning and painfully direct words—*Noble Profession*.

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## The Uses of Hyposulphite of Soda in Dentistry

by A. O. SPROULE, Edmonton, Alberta.

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OVER thirty years ago I learned from a successful medical practitioner that common hyposulphite of soda had medicinal qualities worthy of consideration. Since then I have experimented with it a great deal with decidedly marked and happy results.

The solution of this compound in water is so very soothing and healing in its action on wounded and torn living tissues in conditions following many dental operations, that it behooves me to pass on a statement of my observations to those who may not be acquainted with the possible uses of this substance in dentistry.

Hyposulphite of soda may be used after extractions, to allay pain and reduce swelling due to impacted or unerupted lower third molars, in all orthodontia cases, after alveolectomy and apicoectomy operations, to eliminate poisons from the blood stream, and to

reduce fever due to infected teeth or other cause.

To allay pain and subsequent soreness, or to reduce swelling and hasten the healing process after the removal of teeth, infected or otherwise, immediately apply a cotton pack saturated with a five per cent solution of hyposulphite of soda, comfortably hot, directly to the parts affected. The pack should be changed often and the process kept up for at least fifteen minutes; the longer the better. When a local anaesthetic is used in the above operation insert in each alveolus a suitably sized cotton pack saturated with a mixture of iodine (5%) and eucalyptus oil equal parts. The packs must always be removed before the patient is dismissed. If these rules are carefully observed there will be very little or no after pain, discolouration of the gum tissue, or "dry sockets" to worry over, waste the operator's time, and wreck

## *The Uses of Hyposulphite of Soda*

his hard earned reputation.

To allay pain and reduce swelling due to impacted or unerupted lower third molars, lance freely the tough tissue over the offending tooth, apply the hot "hypo" pack, change frequently to retain the heat, and keep up this process for half an hour or until the pain stops. For over thirty years I have used the above method for this painful and at one time "impossible" condition without a single known failure.

In orthodontia cases apply the hot "hypo" pack immediately after the ligatures have been tightened. The pain will stop in a very few minutes and the time ordinarily taken to reduce the irregularity may be shortened by one half.

After alveolectomy operations apply the hot "hypo" pack immediately, pressing the gum tissue over the remaining alveolar process. Instruct the patient to retain the pack in position with the aid of the lips for an hour, changing the pack as usual. The gum tissue will adhere to the process and healing will take place very rapidly. Stitches are not necessary when the "hypo" solution is used.

After apicoectomy operations apply the same "hypo" treatment. Before the patient is dismissed insert into the newly made aperture a piece of aseptic gauze

saturated with the iodine and eucalyptus mixture. Repeat the iodine eucalyptus operation the following day, leaving this pack in position for another twenty-four hours so that the opening may not close over. Instruct the patient to syringe the now gaping cavity with warm three per cent hydrogen peroxide several times daily for a week, and also to apply the hot "hypo" pack occasionally. The peroxide treatment prevents the opening from closing over too rapidly but does not delay the healthy growth at the bottom of the cavity. If these rules are adhered to success is assured.

To eliminate poisons from the lower bowel in case of "Flu" or common colds, or to reduce fever due to diseased teeth (or to any other cause) for an adult prescribe one teaspoonful of hyposulphite of soda dissolved in one-third of a glass of water, followed by two or more glasses of water. This should be taken about an hour before meals. One dose is usually sufficient but repeat when necessary. When taken this way hyposulphite of soda is a laxative. It causes no griping pains and the bowels are left in a normal condition. When necessary this compound may be taken as an enema with the same remarkable results.

11009 85 Avenue,  
Edmonton, Alberta.

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## *Ontario Dental Association*

The 70th Annual Convention of the Ontario Dental Association will be held at the Royal York Hotel, Toronto, Ontario, May 17-19, 1937.

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## *Montreal Dental Club*

"The Thirteenth Annual Fall Clinic" will be held under the auspices of the Montreal Dental Club on September 22-24, 1937, at the Mount Royal Hotel, Montreal, Canada.

Chairman, Publicity Committee,  
J. K. CARVER, D.D.S.,  
394 Victoria Avenue, Westmount, Que.

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM SASKATCHEWAN:

"I would like to know the probable cause of a general loosening of the teeth of a woman, 35 years of age, during the time of pregnancy. This patient has had three children and loosening of the teeth occurs each time after about the second month. There is no pyorrhea and the general mouth condition is good. The posterior teeth are readily movable under slight pressure. I would like to know what treatment or what diet is indicated."—*Dr. I. Neuman, Saskatoon.*

## REPLY FROM QUEBEC:

With regard to tissue changes during the time of pregnancy, I felt that our chief of Gynaecology, Dr. Archie D. Campbell, should be interviewed. He has promised to write for the C.D.A. Journal on this question. His answer will include scientific findings on monkeys by Prof. J. B. Collip, who is so well known in Canada, and with whom Dr. A. D. Campbell is associated in matters of research.

We know, of course, that vitamin C and calcium are drained from the expectant mother and, hence, its effect on alveolar tissue. We know that blood vessels become enlarged or hyper-vascularized and as the peridental membrane is definitely vascular, the loosening of teeth in the socket might reasonably take place. I would prefer, however, to have Dr. Campbell write, for it would, I have

no doubt, be well received by the readers of the Journal of the Canadian Dental Association.—*Arthur L. Walsh, Montreal.*

## REPLY FROM BRITISH COLUMBIA:

I am of the opinion that the loosening of the teeth described is the result of a systemic disturbance, with which a dentist need not be concerned, except in consultation with the patient's physician.

In the circumstances, no dentist should, of his own accord, presume to treat such a condition or recommend a diet.—*W. J. Lea, Vancouver.*

## REPLY FROM ONTARIO:

In reply to yours of November 18, it would seem that the patient referred to is running true to the form that the Biochemistry and Preventive Department of the University of Toronto feels is almost an established fact, namely, that during the 5-6-7 months of pregnancy there is a tremendous demand for calcium, which is usually met at the expense of the mother. Diet rich in calcium, plus activators, is the answer. Locally—general cleanliness, to prevent breaking down of tissues with lowered resistance.—*Louis F. Krueger, Toronto.*

## REPLY FROM ONTARIO:

The data submitted is not sufficient upon which to base a positive diagnosis; however, the following suggestions may



be helpful in arriving at a conclusion as to treatment.

A possible local cause would be complete lack of function as upon a complete liquid diet. Tests taken of the biting force would show pressure of around thirty pounds in the molar area, if this is a factor. The measurements are taken with a gnathodynamometer. I do not believe that this is a probable factor in view of the short period of time in which these symptoms appear.

It is not probable that calcium deficiency plays a part in this case as again the time is too short for such a condition to develop and also the amount of calcification that has occurred up to two months is very slight, if any. It certainly would not be a very serious drain upon a system that is apparently normal up to the time of pregnancy.

Vitamin C deficiency might be a cause but would be accompanied by marked hemorrhage about the gingival tissues. There is no mention made of such a symptom.

Purpura could also produce this picture but again a dominant characteristic would be hemorrhage.

The condition, if systemic, will most probably prove to be a blood dyscrasia accompanying pregnancy in this patient. To ascertain this it will be necessary to have blood analysis, blood count, blood smear, clotting time and calcium and phosphorous estimations made by a competent physician.

As the condition apparently corrects itself without any permanent damage to the oral tissues it would appear to be the part of wisdom, in the absence of a positive diagnosis, to leave well enough alone.—*T. L. Marsh, 2 College Street, Toronto.*

#### REPLY FROM NOVA SCOTIA:

Reports of gingivitis of a hypoplastic

type are not unusual in the literature in connection with gingivitis; in fact, there is rather common agreement on the characteristics of a type which has come to be known as "pregnancy gingivitis." I have never seen a case of the type described nor have I seen any reported. However, it seems to me that conditions which might cause an overgrowth of the gingival margin might also cause a thickening of the pericementum, which would result in the loosening of the teeth.

I believe that the usual explanation of "pregnancy gingivitis" is that it is linked up with the extra calcium demands. We have heard so much about the need for extra calcium during this period that perhaps it is not surprising that here again calcium should be blamed. I would like to suggest, however, that there are other possible explanations. First, remember that the mother when not pregnant may be able to carry on without these definite symptoms; then, when the extra load of the foetus is added, the metabolic balance of the mother is upset. Perhaps the first thing that one might think of is that the patient has a sub-scurvy condition, the clinical conditions described lending weight to this. The obvious step to take would be to increase the anti-scorbutic vitamins in the diet. A simple way would be by the fairly liberal use of orange juice.

A second thought is linked up with the idea that certain substances are eliminated through the mucous membranes, as in mercuric stomatitis, or the susceptibility of some patients to phenolphthalein, both of these drugs being commonly used in constipation remedies. Possibly the patient is taking a drug which she does not normally take.

A third idea is that such patients are not taking enough food of the right type to take care of the extra load and their condition is a type of semi-starvation

which has associated with it an acidosis and this might be expressed in changes in the mucous membrane.

I would sum up the above by saying that this case is an excellent example of the type of case in which the dentist should welcome the thoughtful assistance of an internist who would go very carefully into this patient's condition. We have had too many guesses and too little sound investigation of this type of case.

Some specific suggestions are:

1. Is the patient taking a drug not normally taken, or in larger quantities than normal.
2. Is there sufficient of the anti-scorbutic vitamin in the diet?
3. Is the calcium content of the diet sufficient or does the patient re-

quire additional vitamin A, as given in milk, haliver oil, etc.?

4. Is the metabolic condition of the patient bordering on acidosis?

While specific suggestions naturally follow from some of the above as to the additions which should be made to the diet, personally I would like the help of a physician who had given some special thought to problems of diet.

Since writing the above I have had the opportunity to discuss this problem with a keen internist who, after considering the possible causes, concluded that the explanation was most likely a shortage of Vitamin C, particularly in view of the section of Canada from which the question comes.—*J. Stanley Bagnall, Halifax.*

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### *Conventions*

ONTARIO DENTAL ASSOCIATION, TORONTO, MAY 17-19.

ASSOCIATION OF THE FRENCH SPEAKING DENTISTS OF AMERICA, MONTREAL,  
MAY 27-29.

ASSOCIATION DES DENTISTES DE LANGUE FRANCAISE DE L'AMERIQUE DU NORD, A  
MONTREAL, LES 27-29 MAI.

WESTERN CANADA DENTAL SOCIETY, SASKATOON, SASKATCHEWAN,  
MAY 31-JUNE 2.

NEW BRUNSWICK DENTAL SOCIETY, SAINT JOHN, JULY 5-6.

THIRTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB,  
SEPTEMBER 22-24.

AMERICAN DENTAL ASSOCIATION, ATLANTIC CITY, NEW JERSEY, JULY 12-16.

AMERICAN ACADEMY OF PERIODONTOLOGY, ATLANTIC CITY, JULY 8-10.

INTERNATIONAL DENTAL FEDERATION, STOCKHOLM, SWEDEN, JULY 9-14.

ASSOCIATION OF AMERICAN WOMEN DENTISTS, ATLANTIC CITY, N.J., JULY 12-16.

AMERICAN DENTAL SOCIETY OF EUROPE, PARIS, FRANCE, AUGUST 2-5.

AUSTRALIAN DENTAL CONGRESS, SYDNEY, AUGUST 16-20.

THIRTEENTH GREATER NEW YORK DENTAL MEETING, DECEMBER 6-10,  
NEW YORK CITY.

# The Forum

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## • STOMATOLOGY IN THE U.S.S.R.

by J. R. TOLLER, L.D.S.R.C.S. Eng.  
(Dental Officer, Isle of Ely C.C.)

(Condensed from Dental Magazine and Oral Topics,  
January 1937.)

THE U.S.S.R. connects Poland and Japan, the Arctic and Afghanistan. It is one-third of Europe, half of Asia, and one-sixth of the earth's surface. Its area is over eight million square miles, and its population 180 millions, including 175 different peoples speaking more than 120 different languages.

One of the first measures of the "October Revolution" was the organization of a large number of dental clinics to provide the population with a medical service which was much needed and long overdue. They were entirely free. By the end of 1927 the number of dentists employed by the State reached 6,500 and had greatly exceeded the total number of dentists in all the territory of the old Tsarist régime.

In 1936 the number of persons treated will be approximately 30,000,000, while the whole population can be said to receive dental inspection at least once annually.

Besides the very large number of dental clinics of all kinds for general dental treatment, a certain number of Stomatological Institutes have been organized in the past ten to fifteen years in association with the universities for teaching. The largest Stomatological Institute at Moscow is a building a little larger than the Royal Dental Hospital of London, and twice as busy. The staff are not debarred from taking a full share of routine clinical treatment in addition to their other duties. Not only in the sphere of medicine, but in every other sphere, the more ability or experience you have, the

more is demanded of you. Ability or intellect is a social responsibility, not a personal asset. There are no honorary positions. The Director and cleaners alike are paid a wage, like any other workers, by the State.

The teaching is largely clinical. As in the case of any other technical training, it costs the student nothing. The manual dexterity of the students was, if anything, slightly superior to that of English students in surgical work. They have much more practice in the kind of work they will be doing daily all their lives. No cohesive or non-cohesive gold fillings are inserted, though they have much practice in cast inlay and bridge work. They have a poor training in prosthetics, and prosthetics is the only branch of dentistry in which the practice of the U.S.S.R. is definitely behind that of Great Britain. I did not see a single articulator other than the old "straight line" type. The amount of time we put into prosthetics as students, they put into orthodontia. They are the finest and most skilful orthodontists I have seen. The concern of the U.S.S.R. for children may account for this interest in orthodontia, their preference for bridges, and their relative neglect of prosthetics. Most of the students are women, though the proportion of men is rising. The most beautiful piece of work I have ever seen was a large stainless steel removable bridge made by a young woman student in Moscow.

The school children, the Red Army, and all workers are obliged to have periodical dental inspection and treatment, and the advent of stainless steel and chromium-plated silver has made the construction of orthodontic apparatus

and of bridges cheap for them.

Dental Surgery is considered essentially a specialty of medicine. In 1919 stomatology was introduced into the curriculum of the medical schools. They are bio-chemical in their approach to disease and are fiercely devoted to their work.

Private practice is permitted. All accounts must be produced for State examination, and fees are regulated. The employment of professional assistance, or partnership, is prohibited. The employment of non-professional assistance is subject to conditions laid down by the State. Wages and hours of work are uniform and regulated by the State. Professor Lukomsky told me that there were 10,000 dentists in the U.S.S.R. employed by the State, and about 3,000 private practitioners. They aim to have one dentist to 12,000 population. When I expressed surprise at this dilution of dentists I was invited to observe the dental condition of the population. There is far less dental disease than in England, or than I have observed in Germany and Poland. Their diet is more elementary, and whether we like it or not we must recognize the fact that the "Russian" population is healthier than ours.

I shall not quote in roubles the wages given to dental surgeons. Unless it is known what a rouble will buy, it is useless to do so. Real wages are not money wages. It is sufficient to say that the wages of dental surgeons are roughly equated to those of school teachers and "doctors," all of which are considered of equal importance to the community, and they live at about the same rate as elementary school teachers do in England.

#### • A MISUNDERSTOOD PROFESSION

THERE is genuine significance in the announcement of Dr. H. W. Oppice of the department of dentistry in Loyola

University that more than half of the pain of the dentist's chair is pure imagination.

Dr. Oppice says the average patient approaches a dental operation in the very worst possible state of mind.

He permits the sound of the drill to terrorize him and its slightly irritating feeling to arouse apprehensions of pain that rarely materialize.

Then, too, he has listened to the competitive conversation of former patients who, as everyone knows, delight in matching lies about the torment that was inflicted upon them when they had their teeth fixed.

Thus the fellow who visits the dentist is crammed full of groundless fears, silly superstitions and utterly false notions of what is going to happen to him.

Actually, dental work has been made as near to painless as anything on this sinful earth can be really made.

Why, then, does dentistry, reputable, ethical and orthodox dentistry, not take steps to disabuse the public mind of some of its outrageous notions?

The medical profession, backed by the insurance companies, has long since moved vigorously and intelligently to combat some of the popular errors of thought and living that complicate the work of the physician and hasten the funerals of the masses.

Sensible and simple educational publicity has definitely begun to solve a good many of the difficulties of the medical profession.

Why should orthodox dentists be averse to the same solution to their most pressing problems, notably the public's unreasonable and ungrounded fear of the dental chair?—*Vancouver Sun*, February 24, 1937.



## • ANALYSIS OF QUESTIONNAIRE ON OFFICE USE OF THE HARTMAN SOLUTION

*(Excerpt from the report on the study of the Hartman Solution, by the Committee of the First District Dental Society of New York City. The report is based upon a clinical study of the use of this solution carried out by its members in 476 practical cases.)*

AFTER the completion of the statistical work of the Committee it became obvious that some additional information would be needed as to the use now made of the Hartman solution in office practice, entirely apart from its success or failure under test conditions. A second questionnaire was, therefore, drawn up and submitted to the Committee members, and the answers received from this questionnaire are summarized below. 28 questionnaires were sent out and replies, more or less complete, were received from 23. It must be emphasized that in this second approach to the problem many points of research significance were not considered, while on the other hand questions of convenience were, including the comparison of the Hartman solution with other anaesthetics and obtundents available at the time. It is of no importance, therefore, if certain apparent conflicts appear between the statistical report and this one.

### QUESTIONS AND ANSWERS

1. "Do you use the Hartman solution at the present time?" 7 answered "yes"; 7 answered "rarely"; 9 answered "no".

2. "Have you changed your original opinion as to the value of the solution?" 14 negative answers were received; 8 positive answers and 1 "partly".

3. "For what type of work do you find it most useful?" A variety of replies were received on this question with emphasis centering on children's cavities, primary decay, partial reduction of pain and the sterilization of cavities.

4. "Do you think it has a place in dentistry?" 10 affirmative replies were received; 8 replies indicated a moderate or questioned degree of acceptance and 2 replies were in the negative.

5. "Why do you use it?" A variety of replies were received with emphasis on the cases in which novocaine was contra-indicated; cases where some psychological advantage may be coupled with a partial reduction in pain, and cases where the solution is of convenience in the setting of inlays.

6. "Why do you not use it?" 6 replies indicated that novocaine appeared more reliable and took less time; 11 replies cited practical difficulties in office application, and the somewhat questionable expectation of success at the present time.

7. "In both technique and cases where indicated have you given the Hartman solution a fair trial?" All answered in the affirmative.

8. "Do you find it hard to keep and why?" 12 answered in the affirmative and 7 in the negative.

9. "How often have you bought a supply?" In interpreting the answers to this question, the length of time the solution has been in use (February to September) must be taken into consideration. 7 members had bought the solution 3 times, 6 twice. Others had bought the solution either more or fewer times or had used no solution except that provided for them by Dr. Hartman in May. Two mentioned an interval of 1 month or 2 months for the periodic repurchase of the solution.

10. "Some men report a high average of success and others a low average. In your opinion is this due to a mastery of the technique and judgment as to where used or the lack of them?" A preponderance of the answers emphasized both judgment and the mastery of the technique, but the question was considered ambiguous by some and the wide variety of individual comment made, makes it extremely difficult to draw the conclusions from the answers as a whole. 3 or 4 negative answers were received.—*New York Journal of Dentistry, February, 1937.*

• **GNATHODYNAMICS**

By ARTHUR O. KLAFFENBACH, D.D.S.,  
Iowa City, Iowa

(Excerpts from article in *Journal of A.D.A.* March 1936.)

**G**NATHODYNAMICS treats of the physical forces used in mastication. The following measurements were obtained. In tests taken of 1,000 students, average age of 23.4 years, the average force of the bite in the molar region was 150.3 pounds, in the bicuspid region 119.8 pounds and 49.3 for the centrals. In patients wearing full upper and lower dentures average age 34, the average force of the bite in the molar region was 22.3 pounds; in the bicuspid region 24.16 pounds and 9 pounds for the centrals. Fixed bridges in molar region withstood, on average, pressure of 54.5 pounds. The load placed on the abutment of teeth increases with each pontic

added and the pressure exerted on the pontic by the patient is relatively reduced because of discomfort or pain.

• **NATIONAL INCOME OF PHYSICIANS AND DENTISTS, IN THE UNITED STATES**

(Excerpts from a monograph prepared by the United States Department of Commerce, compiled from private practice.)

**N**UMBER of physicians and surgeons in 1929—119,324; in 1934—126,253.

Number of dentists in 1929—57,218; in 1934—63,452.

Per capita income of physicians and surgeons in 1929—\$5,403; in 1933—\$3,088; in 1934—\$3,570.

Per capita income of dentists in 1929—\$4,564; in 1933—\$2,501; in 1934—\$2,787.—*Journal of the American Dental Association and Dental Cosmos*, February 1937.



*Fanatic "Hay" Dieter.* "I've been watching you, Sir. You're courting disaster. Good heavens! mixing carbohydrates with proteins."

—Reproduced by kind permission of the proprietors of "Punch".



PRINCE EDWARD ISLAND



W. T. Wye, Charlottetown

Editor — M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

SASKATCHEWAN



F. C. Harwood, Moose Jaw

NOVA SCOTIA



A. W. Faulkner, Halifax

QUEBEC



F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

ALBERTA



John Clay, Calgary

NEW BRUNSWICK



J. F. Edgcombe, Saint John

MANITOBA



J. F. Morrison, Winnipeg

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## Whither Bound?

by A. W. FAULKNER, Halifax

(Associate Editor for Nova Scotia)

Back in 1902 the first meeting of the Canadian Dental Association was held. Every two years thereafter it met until 1926, when a resolution was introduced and passed providing for its reorganization. It was the general opinion in the profession that although the Association had served a useful purpose, it could not function to the best advantage under its original Constitution, and that a change would be desirable.

The reorganization took place in the spring of 1928 at Toronto. The chief alteration was in the composition of the directing body. Previously the Association elected its own executive. This usually meant that some provinces had no representative on the governing body while others might conceivably have more than one. Under the reconstructed Constitution governance was vested in a Board of Delegates, the members of which were appointed by the provinces instead of by the central body itself. By this change each province has had, since 1928, a voice in the direction of affairs of the Canadian Dental

Association. In consideration of their much greater area, Ontario and Quebec were conceded two delegates on the Board.

There is a distinct field of action for a united Canadian profession, and there are many problems of interest to the dental confraternity in the Dominion that cannot be managed by provincial or local bodies. One of the most important of these is the naming of accredited representatives to speak in the name of Canadian dentistry, and the occasions are numerous when this is needful. The old adage, "the whole is greater than the part," has particular significance here. By virtue of its unity and size the Canadian Dental Association has greater prestige in all matters relating to the profession that are not of local interest only. In negotiations with the government the united voice of the provinces carries a weight that no local organization possesses. In a country as large as Canada, and composed of units diversified as regards size, population and progressiveness, much can be done by union to eradicate insularity with its tendency to retard development. If one province is more backward than another, the profession as a whole suffers. By unification an adherence to a common ideal is engendered which helps not only the least progressive unit but reacts to the advantage of all the others. Occasions arise when the standing of the whole profession is endangered by the law court proceedings, as was recently the case in British Columbia. The principle at stake was one affecting every dentist in the Dominion. The funds of the provincial organization were depleted through long litigation. British Columbia was fighting a battle not for herself alone but for the profession as a whole, and this was fortunately recognized by the Canadian Dental Association which promptly came to her assistance. It is conceivable that smaller provinces might not be in a position to carry on a similar fight to a successful issue, and a precedent might be established with a hurtful influence on the whole Canadian profession.

Tariffs on dental supplies and appliances, dental health insurance, professional ethics, dental care of Indians, police, naval and military men are matters more properly looked after by a unified dental profession in Canada than by provincial bodies. There are perhaps many other spheres of activity that are specific responsibilities of the Canadian Dental Association, but there is no necessity for going into greater detail. The point has been made that there is a distinct need for a Dominion-wide dental organization. Such a body is conducive to professional safety and without it we are not in a position to develop to advantage.

We have such an organization, but how is it functioning? Is everything being done that should be done to place the Canadian Dental Association in a position to perform its duties and discharge its responsibilities? The Board of Delegates has worked faithfully and long to enhance the usefulness and prestige of the organization. It has hurdled many obstacles to its progress, but it is faced by many more that will not be overcome easily. What has been done has been worthwhile, but the stage has now been reached, in my opinion, where changes of method will be necessary to insure further progress.



Practically everything has been done that can be done by voluntary effort, and the time has arrived when a more permanent set-up must be arranged if we are to hold what we have, and to go on to further efficiency. At the present time we are asking one member of our profession to devote nearly half his time in editing a Journal for our use and benefit, *with no remuneration whatever*. We are asking another member of our profession to devote the same measure of *his* valuable time to looking after the business interests of the Journal, and for which we pay *him* nothing. The same applies to the editor of the French Section. We should have a secretary who can devote his full time to the work of the organization, paying periodic visits to each of the provinces with necessary trips to Ottawa as the occasion demands. We should have a central office with stenographic help.

We are in the position now where valuable work on behalf of the dental profession of Canada is being done, without compensation, by men who are incited by the vision of what can be accomplished by a united profession. Have we the right to take advantage of their generosity? How much longer can we permit them to sacrifice their own interests on our behalf? If the dues of the Canadian Dental Association were raised to \$4.00 per member per year, the program sketched above could be carried out and we would possess the advantage of having a permanent organization.

How can these dues be obtained? The Dental Register binds the dentists of each province into a coherent whole. The legal body, whether it be designated a College or Provincial Board, is the authorized mouthpiece of the profession and as such should assume the responsibility of leadership respecting professional problems affecting its members. It will be argued that their powers are defined by Act of Legislature, and that they are helpless in the situation. Legislatures are reasonable, and amending Acts is perhaps their chief preoccupation. "Where there's a will there's a way." The future usefulness of the Canadian Dental Association depends to a large extent upon the wisdom and collaboration of the legal bodies in the provinces.

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## The Albert E. Webster and Wallace Seccombe Memorial Fund

An appeal is being made to the dental profession of Canada, to establish suitable memorials to the late Deans Albert E. Webster and Wallace Seccombe. These memorials are to be in the nature of two scholarships, which shall be awarded to students in the Faculty of Dentistry of the University of Toronto, in which Deans Webster and Seccombe carried on their life work, and made their great contributions to our dental profession.

To carry out the plan a General Committee has been appointed composed of the Executive Committee of the Faculty of Dentistry of the University of

Toronto, the Executive Committee of the Ontario Committee, a representative from each of the other provinces and the Presidents of the Canadian Dental Association, the Royal College of Dental Surgeons of Ontario, and the Ontario Dental Association. This Committee shall determine the general policies and shall receive reports from the Provincial Committees.

In order that the dentists of Canada may have an opportunity to participate, a committee will be formed in each province, which shall determine the method of appealing for contributions in that province. Remittances are to be forwarded to Dr. W. E. Willmott, Faculty of Dentistry, University of Toronto, who has been appointed treasurer of the fund.

The names of contributors will be published, without indicating the individual amounts.

To the indifferent who ask "Why this Memorial?", we may answer that it will reaffirm from year to year a natural dental act of enthusiasm and faith, a faith in our noble profession and what it is doing to alleviate human suffering, and an enthusiasm for these great men who have given their lives in the interests of our profession and all it stands for. We who have known these men and watched them travel onwards and upwards with the flame of genius in their faces, can never believe that the power of money nor the fascination of pleasure were the governing motives of their souls, but knowing only duty, they continued to serve their beloved profession until at the height of the symphony of life and love and service, there came a pause, and the reapers of death were heard.

For us this should not be the end. Those beloved ones who have passed should still live, and bid us press forward in a loyal and efficient service, and so we appeal to you, the dentists of Canada, to help build this memorial to these two great dental statesmen, by whom, on more than one occasion, our hearts were touched with fire as they held up to us the highest ideals for the practice of our profession.

*M. H. G.*

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## BOOK REVIEWS

### **Oral Diagnosis and Treatment Planning**

—A text for the dental student—a reference book for the practitioner and medical student, by Kurt H. Thoma, D.M.D., Charles A. Brackett, Professor of Oral Pathology in Harvard University; Oral Surgeon to the Brooks Hospital, etc. 379 pages; 533 illustrations; 71 colours. Cloth, \$6.75. London and Philadelphia: W. B. Saunders Company—1937. Canadian agents: McAlinsh & Co. Limited, Toronto.

In the preparation of this textbook the author evidently has endeavoured to make it as practical as possible. The subject matter is divided into three main parts and the author definitely instructs the reader how to use this publication to the best advantage. Each section is subdivided into chapters and those chapters devoted to clinical diagnosis are well indexed so that the reader may refer to any particular subject with great convenience.

The first part is devoted to "The Theory of Diagnosis and Treatment Planning." These

subjects are discussed briefly but in such a manner as to cover the different aspects of the questions.

Part two deals with "The Different Methods of Examination." This subject is discussed under various headings, such as, general conditions, medical history, physical examination, laboratory tests, Roentgen examination, and some special examinations, for certain oral and dental conditions, such as, photographs, impressions, saliva analysis, bacteriological examination, etc.

The third part of the text deals with "The Clinical Diagnosis of Dental and Oral Diseases." The largest portion of the book is

devoted to this subject and the different diseases are arranged as to their clinical manifestations with cross references and each chapter is headed by a complete index of contents. This orderly arrangement should be of great assistance to both the student and the busy practitioner as a means to facilitate the use of this text as a book of reference in making a correct diagnosis.

The reading material is brief, concise and to the point; illustrations are splendid, numerous and many coloured; and the general format of the book is excellent.—*Stephen A. Moore.*

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**A Preliminary Study of the Eruption of the Mandibular Third Molar Tooth in Man based on Measurements obtained from Radiographs with Special Reference to the Problem of predicting Cases of Ultimate Impaction of the Tooth** — by C. Bowdler Henry, M.R.C.S., L.D.S., and G. M. Morant, D.Sc. *Biometrika*, volume XXVIII, Parts III and IV, December, 1936. Pp. 376-426; 6 figs., 14 plates. Issued by the Biometrika Office, University College, London.

The memoir is divided into eight sections discussing, first, the Clinical and Anatomical Aspects of Maleruption of the Mandibular Third Molar. The authors give numerous examples of the types of lesions and complications occurring. The nature of the investigation and the material used follows. This consisted primarily of four series of radiographs relating to dental and medical students at three London hospitals. The radiographs used are extra-oral. Tracings are made from these and then enlarged. By establishing the true axis of each molar and an average base line, the geometric figure obtained when con-

sidered in relation to the rameal line posterior to the third molar indicates the extent of impaction. Regard must be had, of course, to the stage of development of the bone, such development being different in different age groups. The sixth and seventh sections deal with the "Third Molar Space Index." Detailed and elaborate measurements are shown for the cases available.

In the conclusion the authors suggest "if a reliable method of predicting, in the case of an immature individual, that one or both of his lower third molars would ultimately become impacted, then the tooth could be removed at once as a preventive measure." . . . "This only purports to be a preliminary investigation and the results seem to justify the conclusion that suitable material worked up on the same lines would lead to a satisfactory solution of the problem discussed." The plates, which consist of radiographs and drawings, are excellent.

In the opinion of the reviewer a great deal more evidence would have to be established to warrant early enucleation of the lower third molar, on the grounds of a probable ultimate impaction.—*Kenneth M. Johnson.*

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*The darkest hour of a man's life is when he sits down to plan how to get more money without earning it.*—*Horace Greeley.*

## CORRESPONDENCE

TO THE EDITOR,—

My attention was recently directed to your association's journal of September, 1936 (page 405), in which appeared a report of a chemical formula given by Dr. Campbell, of Chatham, quoting "a formula similar to Kelly's Impression Paste".

If Dr. Campbell really refers to Dr. Kelly's Impression Paste manufactured and distributed by the Kelly-Burroughs Laboratory, Inc. of Chicago which was developed by me several years ago, I feel that the use of the term "similar" is misleading.

There is no particular mystery about the basic contents of Dr. Kelly's Paste, but to broadcast statements which tend to belittle the research work of years, involving thousands of laboratory tests in combining metallic oxides, resinous oils, and mixtures, seems hardly professional.

There is, too, a little seriousness in offering any chemical formula to the general practitioner based solely on hearsay or crude chemical analysis.

Today there are pending in the United States several law suits based upon the use of zinc oxide pastes. I might mention here, in the early distribution of "Kelly's Paste" complaints from dentists indicating destruction of tissue and constitutional disturbances aroused me to fear and caution.

Recently a letter came from England inquiring as to the possibility of systemic poisoning.

An outstanding dentist in a near-by city consulted me last month with the thought of a defense in a malpractice action—the result of "home" compounding of chemical metallic pastes.

Referring specifically to Dr. Campbell's formula, I desire to state that Dr. Kelly's Paste does not contain either "Canada balsam or balsam of Peru".

To the dentist who desires to make his own cement compound, waxes, or zinc oxide pastes the following should be added to Dr. Campbell's outline:

1. Use only zinc oxide which has a high oil absorption value and which has been submitted to heat sufficient to eliminate every trace of metal poison.
2. Resins must be standardized to a low acid ph. void of all impurities and ground to a combustible fineness and balance.
3. Essential oils must be refined to a mucous membrane tolerance.

The above is fundamental in the compounding of any pastes, and while I am not permitted to furnish the exact formula of Dr. Kelly's Impression Paste as patents are pending by the manufacturer at this time, I feel sure that the average professional man will more carefully guard his patient by using products of standardized tests in the mouth.

Very truly yours,

E. BYRON KELLY, D.D.S.,

March 29, 1937. CHICAGO, ILL., U.S.A.

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## NEWS FROM THE PROVINCES

### BRITISH COLUMBIA:

#### British Columbia Dental Association

The British Columbia Dental Association met in Vancouver, Saturday, March 13, with a record attendance.

Dr. Sanford M. Moose, San Francisco, California, was the guest speaker. His subject was "Local Anaesthesia and Oral Surgery". During his morning lecture, he clearly demonstrated, by means of very large models, slides and a cadaver, all types of oral anaesthesia.

While at the evening session he presented the most outstanding coloured motion picture of oral surgery. Dr. Moose has shown this film throughout the American continent and it is agreed that it is a masterpiece of both oral surgery and photography.

Four outstanding practical table clinics were presented during the afternoon session.

Dr. C. T. Fleetwood, Seattle, Washington, demonstrated a complete technique for gold inlays by the indirect method, paying particular attention to the construction of the models



and the manipulation of wax.

Dr. W. H. Hagen, Seattle, Washington, presented one of the most practical clinics on porcelain inlays, jackets and facings that it has been the pleasure of our association to witness.

Dr. Frank E. Wood, Seattle, Washington, —Immediate Dentures and a New Rebasing Technique.

"Some Phases of Juvenile Dentistry", was presented by Dr. J. A. Simpson, Vancouver.

The Vancouver Ferrier Study Club presented three chair clinics. Dr. George Ellsperman, Bellingham, Washington, demonstrated the application of the rubber dam and clasps. Dr. W. J. Gibson, Victoria, inserted a class three gold foil filling, while Dr. G. D. Stibbs, Vancouver, inserted a class five foil filling. This study club has shown marked ability from the teaching that they received from Dr. Walter I. Ferrier's instructions last fall.

Dr. George Ellsperman showed a natural coloured film on the class five gold foil filling. This film was produced by Dr. Ernest Jones, University of Southern California and a former member of the Seattle Ferrier Study Club.

The clearness and detail of these films have revolutionized the teaching of all types of operation and allows every one to see clearly each step.

The following officers were elected for the new term:

President—Dr. Wm. Miller, Vancouver.

Pres.-Elect—Dr. E. Hetherington, Victoria.

Secretary—Dr. D. H. Munroe, Vancouver.

Treasurer—Dr. R. L. Pallen, Vancouver.

Board of Censors—Drs. J. Gansner, Nelson; H. Clarke, Victoria; and R. W. Hall, Vancouver.

The Annual B. C. Golf Tournament was held at The Vancouver Golf and Country Club, New Westminster. The following prizes were won: Low Gross, J. S. Bricker, 79; Low Net, E. C. Jones, 71; Low Net Runner Up, Chas. Dawe; Handicap 15-23, Dick Butler, and Handicap 24 and over, H. Whittaker.

The Association stood in reverent silence to that Beloved Man, the late Albert E. Webster.

### **Health Week at Nanaimo**

Health week was observed April 4-10 in Nanaimo. Window displays were arranged in down-town stores. Besides the dental clinic there was a baby clinic, child guidance clinic, chest clinic and school gymnasium display.

### **Vancouver Dental Society**

Dr. C. J. Stansbery, of Seattle, Washington, gave a lecture on two phases of denture construction, determination of centric relation and an analysis of the forces active between the occlusal surfaces of the teeth, to the Vancouver Dental Society. The ordinary conception of centric relation was expanded to include condylar condition and position, vertical height or interdental space, precision relation between bony mandible and maxillae, tissue compression without lateral deflection in impression, check-bite and denture, relation of the cuspal slopes under masticating stress, and the final determination of the balanced condition, which included all of the above. While each and every one of the above list was shown to be necessary for a precision centric relation, their individual records were shown to be automatically included and recorded in the one simple and final step of the centric registration.

The failure to obtain a correct centric relation was demonstrated to be of the utmost gravity because with an imperfect centric comes a chain of related troubles. Peripheral irritations, ridge soreness, lack of retention and imperfect mastication are many times but the symptoms of "missing the bite" disease. There is no technique of denture construction in which this relation is not of paramount importance. Those who take Dr. Stansbery's teachings to heart and follow carefully his technique for registering centric occlusion will not have to qualify their statement, "I never miss the bite" with a "well, hardly ever."

The second portion of the talk dealt with porcelain friction. He showed that when two ground and polished porcelain surfaces were pressed together a certain and definite proportion of this pressure was necessary to make them slide laterally. For instance, if two blocks of porcelain were pressed together with a force of ten pounds, three pounds would be necessary to slide one upon the

other. This basic fact was carried into cusp forms of teeth. Dr. Stansbery, while in Europe this past summer, discussed this subject with Dr. Gysi who had been investigating the same question. Dr. Gysi had but recently given a paper on porcelain friction before the Society at Oslo, Norway, and considered that it was of prime importance in the study of the effectiveness of tooth form.

#### **SASKATCHEWAN :**

##### **Dr. George Cameron Honoured**

The many friends of Dr. George L. Cameron, of Swift Current, the immediate Past-President of the Canadian Dental Association, will be pleased to learn of a new honour which has recently been conferred upon him. At the annual meeting of the Educational Council of Saskatchewan, held in Regina on March 22nd, Dr. Cameron was elected Chairman of that important body. By virtue of that office he automatically becomes a member of the Senate of the University of Saskatchewan. While we know he will worthily represent the Educational Council on the University Senate, we also are equally certain that he will whole-heartedly support the official representative of dentistry on the Senate, in any matters affecting the Profession and the University.

##### **Dental Relief in Regina**

A plan for caring for relief cases was presented to the City Council in March by the Regina Dental Society and was approved. A sum of \$3,500 will be allocated to cover complete cost of dental relief work for one year and will be payable to the society—250 at the end of each month and an additional \$125 every three months.

The monthly payment will cover the cost of all extractions. The quarterly payments will provide for emergencies such as impactions, x-rays, home treatments, denture repairs and treatment of diseases of the mouth.

Relief recipients will have a choice of dentists. The Society will appoint one of its members to be known as Chief Director of Dental Relief Services and he will appoint monthly an examining officer whose duties will be to examine relief cases and to issue necessary orders.

Dr. R. H. McDougall, of Moose Jaw, recently returned from a trip to Vancouver. While there he was successful in passing the examination of the British Columbia Dental Board, for license to practice in that Province.

#### **MANITOBA :**

##### **Winnipeg Dental Society**

The annual election of officers of the Winnipeg Dental Society, which took place at the April meeting of the Society, resulted in election by acclamation of Dr. C. M. Truman, president; Dr. S. R. Bird, vice-president; Dr. G. A. Buchanan, secretary-treasurer; and Dr. J. E. Abra with Dr. Roy Kerr complete the executive for the next year.

Dr. Howard Geddes, the retiring president, gave a synopsis of the meetings which had taken place during his term of office, and this report together with that of the retiring secretary-treasurer, Dr. J. Gordon Elsey, indicated a very successful and encouraging year's progress, the membership of the society having passed the century mark during the season. All the programs having been given by the local members of the society, the increased membership and attendance would refute the old adage that "There is honour for a prophet except in his own country."

##### **Manitoba Dental Association**

The annual meeting of the Manitoba Dental Association will be held in Winnipeg as usual this year and while the date has not been definitely settled it will likely be about the middle of June. An interesting and profitable meeting may be depended upon.

From present indications a large representation of the Association will be in attendance at the meeting of the Western Canada Dental Society in Saskatoon to take advantage of the attractive program of which we have received advance notices.

#### **ONTARIO :**

##### **Lambton County Dentists**

The dentists of Lambton County met at Petrolia on March 17, when Dr. C. H. M. Williams, of Toronto, led the discussion on new dental methods in dental work.

**Interim Report of the Public Dental Health Committee, The Academy of Dentistry, Toronto, April 15, 1937**

Just as a periodic "Stock-taking" is an important factor in determining the present position and future possibilities of a business organization, so the reviewing of past efforts and the appraising of present trends is an equally important factor in formulating the future program and policy of a professional organization.

With this thought in mind, this Committee deemed it wise to "take stock" before entering upon the year's activities. At the inaugural meeting, held on July 4, 1936, after considerable discussion, it was decided to spend the season in an effort to seek a solution to some of the problems facing the Dental Profession.

At the outset it was suggested that the public generally were not receiving adequate dental treatment. This opinion seemed to be shared by the men present, both in their experience and in their contacts with others, and was borne out in reports from many sources. The reason for this general condition, if true, seemed obscure. In order to get at a proper basis for dealing with the problem, it was agreed that it would be advisable to determine the public's attitude toward the value of Dental Care.

**DENTAL SURVEY**

The Committee, after due consideration, decided to recommend to the Academy that a survey be made to secure some factual information. Accordingly, at the first stated meeting, a resolution, which received unanimous endorsement, was presented. (See Journal C.D.A., December 1936 issue, page 560.)

Despite the fact that an increased grant was received this year by the Committee, it was realized that the amount would be inadequate to make a survey sufficiently large in scope to project reliable conclusions.

It was realized further that the information obtained from the survey would benefit other organizations interested in Public Dental Health. Representation was therefore made to the P.D.H.C. of the O.D.A., the Board of Directors of the R.C.D.S., and the Ladies' Dental Auxiliary, all of whom acceded to the request for financial assistance. A joint committee composed of representatives of the

O.D.A., the R.C.D.S. and the Academy of Dentistry was subsequently formed to carry out the survey. This is now under way and in a short time the results of this study of public opinion will be made available and published for the benefit of all concerned.

**DENTAL HEALTH INSURANCE**

In view of the recent interest in Health Insurance two sessions of the Committee devoted to hearing informed speakers discuss this all-important subject. Following these addresses considerable discussion took place regarding the advisability of dentistry participating in the health insurance plans now mooted. It is felt, however, that the matter is of too broad general interest for any individual action upon the part of this Committee, deeming it wiser to leave the matter in the hands of the Provincial and Canadian bodies. On the other hand, this Committee is anxious to be informed of new developments in this connection.

**THE PRE-SCHOOL CHILD**

The dental needs of the child five years and under has prompted much discussion. How to educate parents to the value of early care of the deciduous teeth and how much care is essential; how to provide it, so that it would be available to all. If school dental services would concentrate their efforts on the care of the younger children's teeth, would their work be more effective?

These questions and more have stimulated much thought and while little of a practical nature is ready to be presented as a solution, yet one tangible result of the year's effort has been the institution of some research on the dental caries problem in young children. In this project the Dental Faculty and the Infants' Home are co-operating. The whole matter requires considerable more study, but progress is being made.

**INDUSTRIAL DENTAL SERVICES**

Under the Dentistry Act of Ontario the Board of Directors of the R.C.D.S. are charged with the duty of regulating the activities of members of the dental profession and may, at their discretion, permit the establishment of dental clinics.

Ample evidence has been forthcoming that industries are interested in the possibilities of

Group Dental Services for their employees. However, the onus of developing a satisfactory plan for such service rests upon the dental profession. Therefore, the Industrial Dental Service Committee feels that the Board should express a definite policy toward Dental Clinics for industrial groups.

It is desirable that the Board should also suggest a plan that will be adaptable to the needs of various industrial groups.

From contact with industrial representatives it would seem that at least two types of dental service are being requested by such organizations:

Type 1—A consultation service based upon radiographic and clinical examination which would merely indicate the dental health of the employees.

Type 2—A consultation and surgical service which would not only include the service rendered in Type 1, but also elimination of dental foci of infection.

The Committee recommends that the present patient-dentist relationship be maintained as a fundamental requirement in any plan that may be adopted.

This could be accomplished by the appointment of a dental consultant, retained by the industry, who would act as a director of dental health services for that industry.

The suggestions in regard to this phase of the report are submitted at the present time only as constructive thought. In this connection a considerable amount of further study is desirable before a working plan is completed.

The Committee requests any dentist who feels that he has a solution for this problem to communicate his suggestions, in writing, to the Secretary of the Academy.

#### PUBLIC DENTAL CLINIC

|                                                            | 1935 | 1936       |
|------------------------------------------------------------|------|------------|
| Patient visits to clinic .....                             | 8946 | 7294       |
| Metal fillings .....                                       | 1281 | 1636       |
| Enamel and cent fillings .....                             | 719  | 1060       |
| Treatments including prophylactic treatments .....         | 1030 | 857        |
| Denture service .....                                      | 600  | 600        |
| Patients receiving repairs to dentures, bridges, etc. .... | 55   | 48         |
| Time given by profession in clinic as operators .....      | 360* | 353*       |
| No. of dentists assisting in clinic .....                  | 160  | 187        |
| No. of dentists assisting in denture service .....         | 139  | 136        |
| Cost to city not including administration costs .....      |      | \$9,360.00 |

\*— $\frac{1}{2}$  days.

The Public Dental Clinic on Nassau St., conducted jointly by this Academy and the Departments of Welfare and Health of this city, reports in the preceding table the services for 1936 with comparative figures for 1935.

It is interesting to note that 1060 people have had their dental services completed and placed in a condition of good dental health within the year. This would seem to indicate a generous contribution to the health of the unemployed in our city by the dental profession.

Examination of the comparative report would seem to suggest that present facilities were meeting the demand fairly adequately. Applications on file for dentures are now 600, which is 384 less than one year ago and this would indicate that the need was gradually being satisfied.

That portion of the appropriation earmarked for bridge repairs, rebasing dentures and denture repairs has provided a valuable service to a number of unfortunate people. Broken facings were replaced, recently extracted teeth added to patients' dentures, ill-fitting dentures made comfortable and useful. In this way many people were made fit for employment, both in health and appearance, at small cost. This service, of course, was supplementary to that provided by the Province which only cared for simple denture repairs.

Representatives of the P.D.H. Committee met in conference with Mr. W. A. Laver, Commissioner of Welfare, and Dr. Gordon P. Jackson, M.O.H., on December 30 last, to discuss the above report and decide on a policy for 1937. The Committee recommended to these city officials that the service be continued in the new year without change in the set-up. That is—

1. City to maintain clinic and provide supplies.
2. City to retain present staff.
3. City to make same appropriation of \$9360 to provide:
  - (a) New dentures where needed for those on relief as far as possible.
  - (b) Repairs and refittings to prosthetic appliances, making them more useful.
4. All prosthetic services to be referred to dentists in the city interested in the



project and completed in their respective offices.

5. The dentists of the city to man one operating unit in the clinic providing operative dental treatment. (An opportunity to be given each dentist in Toronto to voluntarily serve one-half day in turn.)
6. It is understood by the parties co-operating in this clinic that all patients applying for treatment, whether for prosthetic service or for operative service, must first satisfy the Welfare Department that they are eligible to receive this relief health treatment.

During the discussion the Committee expressed a desire on the part of the profession to have the cost of items of service withheld from publicity in the press. This whole service from the outset has been established and conducted by the co-operative efforts of the Department of Health, the Department of Welfare and this Academy, each making a contribution to render a dental health service to a needy class of people. The arranged allowance paid the dentist for providing denture service for a relief patient in his office was never intended to be an adequate fee. After making this point clear the Academy representative asked that the appropriation be referred to as a "grant for dental services." It was pointed out that specifying the items included is misleading when all facts were not known.

In concluding the interview the city officials present were sympathetic to the request and promised to do what they could to carry out the suggestion.

#### SUB-COMMITTEE ON PUBLIC DENTAL HEALTH EDUCATION

##### *Primary School Children—Graded Material.*

The Committee co-operated with the Ontario Government Joint Committee on Health and Education to further the publication of graded Dental Health Educational Material to be used throughout the primary schools of Ontario.

Educational material upon health subjects must be graded, in order that these subjects will be presented in their most interesting and effective manner to the children of each age group.

##### *Public Dental Health Day.*

Public Dental Health Day, featuring Dr. Walter Emerson Briggs, of Attleboro, Mass., authority on the subject of Preventive Dentistry, stimulated an interest upon the part of Dental, Medical, Health Organizations, educationists and the general public in the subject of Dental Health. The willingness of the press, radio, Service Clubs, as well as Health organizations outside the profession, to co-operate was a revelation to the Committee in charge. Apparently the one essential to receiving this valuable co-operation was that the effort be definitely and unselfishly in the interests of the Public Health of the Community.

An opportunity was afforded to representatives of all Toronto papers to interview Dr. Briggs. The co-operation of the press was noteworthy in providing both reporters and space.

The weekly luncheon meeting of the Kiwanis Club was featured as Dental Health Day, with Dr. Briggs as the guest speaker. This address was broadcast through the courtesy of C.F.R.B. and the Royal York Hotel.

In the afternoon an exhibition of Dr. Briggs' educational material was open by invitation to Health Workers, Teachers, Principals, School Inspectors and the general public.

In the evening the members of the Academy of Dentistry and specially invited guests, among whom were representatives of the Ontario Department of Health and Education, City Council, Board of Health, Canadian Red Cross, Health League of Canada and the Pediatrician Division of the Academy of Medicine, viewed Dr. Briggs' exhibit and heard his splendid and inspiring appeal for greater activity in the field of Preventive Dentistry for children as a Public Health measure.

Following the paper a resolution (previously published in this journal) was adopted endorsing the principles of Preventive Dentistry and urging their more universal application.

Through the co-operation of the Ladies' Auxiliary of the Academy, a reception was held at the conclusion of the meeting at which the guests availed themselves of the

opportunity to discuss informally the problems of extending Dental Health Education to the public.

Dr. Gordon C. Bates, Editor-in-Chief of "Health," the official journal of the Health League of Canada, kindly offered to publish the text of Dr. Briggs' radio address in his journal and thus make it available to many professional and lay people across Canada. This offer was accepted gratefully and the article appeared, with suitable illustrations and editorial benedictions, in the winter issue of "Health."

Dr. Briggs' address was an inspiration to many. The representatives of the Nutritional and Home Nursing Services of the Red Cross suggested that in the future a lecture on Dental Health be made a recognized part in the courses conducted by them. To date, twelve such lectures have been given and Dental lectures are now accepted as a necessary part of each Home Nursing Group series. Further, the Committee are now giving assistance in the preparation of a lecture to be given throughout Ontario by the Red Cross nutritionists on Preventive Dentistry.

#### *Health League of Canada.*

The Toronto Division of the Health League of Canada, devoted to the education of the public upon all matters relating to Health, has two members of the Public Dental Health Committee appointed to their board of advisors. The League has agreed to lend its facilities in any way possible to the spread of Public Dental Health information. In this regard it is intended to invite Dr. Lon W. Morrey, D.D.S., Chairman of the Bureau of Public Relations of the American Dental Association, to address a public meeting under the auspices of the League. The League has also approved the policy of turning over all requests for Dental lectures or articles which it may receive to the Public Dental Health Committee of the Academy.

#### *Dental Health Lectures.*

During the year dental health lectures have been delivered to 16 groups of secondary school pupils, aggregating 11,700 students; to 16 Home and School Clubs throughout the city and to five other lay organizations of varying interests. Further, in co-operation with the plan of the Archbishop of Toronto to

have a series of lectures delivered to the lay members of the Archdiocese, the Educational Committee on Public Dental Health is assisting so that some lectures on dental health will be included in the series.

#### *District Dental Societies.*

In order to stimulate interest within the profession it was suggested to the Executives of the five Toronto District Dental Societies that one evening be devoted to the subject of public dental health. To date two such evenings have been held and were well attended.

#### *Ontario Dental Association Convention.*

Through representation made by the P.D.H.C. of the Academy to the Convention Committee of the O.D.A., a paper on "Dentistry for Children," by Dr. George Sweet, of Oakland, California, will be featured on the program of the 1937 May Convention of the O.D.A.

#### *Visual Education Material.*

It had been the intention of the Committee to gather and classify visual educational material for the use of the members of the Academy in educational activities. After careful consideration it was decided to postpone this step in order that the results of the survey referred to elsewhere might be studied in order to determine along what lines educational efforts were most needed.

A complete set of the educational material, exclusive of motion picture films, lantern slides, and models prepared by the Bureau of Public Relations of the A.D.A., has been secured for consideration and future use. In addition, certain bulletins prepared by the Office of Education of the U.S. Department of Health have been obtained.

In regard to policy, it is the feeling of the Committee that public dental health education should begin within the professions of dentistry and medicine. In the past opportunities to present dental lectures to public bodies have been solicited. Inasmuch as this policy savours of selfish propaganda, it has been discontinued. Notwithstanding this reversal of policy many requests were received by the Committee. This was due in no small measure to the inspiration given the leaders of thought in the community, as a result of "dental health day," previously mentioned.

One dental health day in the year is not sufficient. In every dental office every day should be dental health day. The individual dentist can play the most important role in the program of dental education—if he will.

In conclusion, owing to the limited space available, the Chairman has been forced to delete many important matters dealt with by the Academy P.D.H.C. this year. However, it was deemed wise to present the above resumé. Although incomplete at this time, it may be of interest to many readers as a progress report of the activities of this Committee.

Finally, the Chairman feels he would be remiss if he did not acknowledge the excellent co-operation that has been accorded him by the members of his Committee, his sub-committee chairmen, many members of the profession and the following organizations: Board of Directors, R.C.D.S., P.D.H.C. of the Ontario Dental Association, Health League of Canada, Kiwanis Club, C.F.R.B. Broadcasting Station, Ontario Joint Committee on Education and Health, Ontario Red Cross, Infants' Home, Faculty of Dentistry, University of Toronto, the Departments of Health and Welfare of the City of Toronto, Ladies' Dental Auxiliary, Academy Council, the Royal York Hotel and the Journal of the Canadian Dental Association.

This report is submitted on behalf of the Executive Committee—H. D. Leuty, T. L. Marsh, W. J. Kerr and T. R. Marshall.

*Signed—*

G. VERNON FISK, *Chairman*,  
A. E. HIGGINS, *Secretary*.

#### **Hamilton Dental Association**

At the Annual Meeting of the Hamilton Dental Association held April 13, at the Brant Inn, Burlington, the following officers for the year 1937-38 were elected:—

*President*—C. G. STEWART.

*Vice-President*—J. A. CUMMER.

*Secretary*—C. T. MASON.

*Treasurer*—G. M. JACKSON.

*Directors*—R. F. FLACH, J. E. MOSER.....

#### **Re-Union of 1917 Classes**

A re-union of the members of the graduating classes of 1917 will be held on Monday evening, May 17th, at the time of the O.D.A. Convention.

#### **Deserved Honours**

Dr. J. Wallace Graham was recently successful in obtaining membership in the Royal College of Physicians, England. He has been doing dento-medical research work in London under Dr. Wilfred E. Fish.

#### **Red Cross Appointments**

It is understood that the Board of the R.C.D.S. of Ontario have been invited to appoint a dentist to the Board of the Canadian Red Cross (Ontario Division) to act in an advisory capacity in connection with the dental services rendered by the Red Cross.

#### **Golf Tournament**

The Annual Golf Tournament sponsored by the London Dental Society will be held on June 10th, at the Highland Golf Club, London.

All dentists are welcome. Come and have a real time. Communicate with — Dr. K. Berry, New Bank of Toronto Bldg., London, Ontario.

#### **QUEBEC:**

##### **Montreal Dental Club**

The members of the Montreal Dental Club held a meeting in the club rooms on the evening of February 25. The essayists were Dr. George S. Cameron and Dr. J. W. Morton, both members of the club. Dr. Cameron demonstrated a new technique for registering centric occlusion. This method he humorously termed "The Cameron Flash" and it is hoped by the officers of the club that Dr. Cameron will be prevailed upon to demonstrate this method at the 13th Annual Fall Clinic which is to be held in September. Dr. Morton led a discussion on Amalgam Restorations. Several prepared questions were submitted and answered. Both these essayists were enthusiastically received.

##### **Montreal Dental Club**

Dr. Frank Cormia, a recent addition to the department of medicine, Royal Victoria Hospital, Montreal, and who has just completed three years' post-graduate study at the University of Pennsylvania, presented a paper to

the members of the Montreal Dental Club on March 25th last. The title of this paper was "Infectious Diseases of the Mouth and Skin with special reference to Syphilis".

Dr. Cormia covered a tremendous number of interesting mouth conditions in the short time at his disposal and his advice to the members with regard to the precautions they should take against self-innoculation was a note well sounded. He showed numerous slides of actual cases which, in themselves, gave an appearance of harmless lesions, but, in reality were lesions which should be handled with utmost precautions.

In all probability Dr. Cormia's paper will appear in a later edition of the JOURNAL OF THE CANADIAN DENTAL ASSOCIATION.

#### **Montreal Dental Club**

On the evening of April 10th the members of the Montreal Dental Club entertained their ladies at a progressive bridge held in the ball-room of the Faculty Club of McGill University. At the conclusion of the bridge party a buffet supper was served in the dining-room and although the attendance was not large the affair was a huge success and it is expected that the club will repeat this party at the earliest possible date.

#### **Dental Nurses and Assistants**

The April meeting of the Montreal Dental Nurses' and Assistants' Association took the form of a complimentary supper provided by the Catelli Food Products Limited. About seventy members and guests were present and enjoyed the musical program provided for the occasion.

#### **Dental Nurses and Assistants**

The Montreal Dental Nurses' and Assistants' Association was addressed by Dr. J. C. Flanigan at their monthly meeting held in their club rooms on the evening of Tuesday, March 2. Dr. Flanigan's subject was Office Psychology. The meeting was exceptionally well attended and presided over by Miss Mildred Starr, the president. The speaker was appropriately thanked by Miss Margaret McMahon.

#### **NEW BRUNSWICK:**

##### **Aid to Dental Clinic**

The manager of the Imperial Theatre of Moncton turned over his theatre, for three days in February, to the Free School Dental Clinic which will receive a large percentage of the receipts.

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## **EMPIRE NEWS**

#### **GREAT BRITAIN:**

##### **Tombstone Teeth**

Dr. J. Forbes Webster, Dean of the Dental Hospital, Glasgow, speaking at the annual meeting of the West Govan Child Welfare Association, said that 60 to 70 per cent of the illnesses in hospitals could be traced directly or indirectly to the condition of the teeth.

"If people would only pay attention to their teeth," he said, "there would be no need for anything like the number of tombstone artificial dentures one sees in Glasgow to-day."—*Glasgow Evening News*, March 6, 1937.

##### **Annual Meeting of the B.D.A.**

The 1937 meeting of the B.D.A., under the presidency of Mr. Bryan J. Wood, promises to

be a great success. The interesting program will include the following subjects, "Tissue Culture *in Vitro*"; "Radiographic Differential Diagnosis"; "The Dentist and the State"; and "Root Canal Therapy."

##### **Black-List of Patients**

##### **Thousands of Pounds Owed in Bills**

A black-list of patients who will not pay doctors' and dentists' bills has been drawn up by the Mersyside Medical Practitioners' Association.

Tens of thousands of pounds are, it is claimed, owed in bills, and scores of people are owing accounts to many doctors at the same time.

The black-list will be sent round to members of the Association, who will refuse to



attend to the people on it until they pay their bills.—*Sunday Express (London)*, March 7, 1937.

#### **Royal Patronage**

On the accession of His Majesty King George VI, a Loyal Address was presented by the British Dental Association and an acknowledgment received. His Majesty has graciously consented to continue his Royal Patronage to the Association.

#### **Correction**

The \$146,000 allocated for education, dental health education, research and post-graduate instruction in 1937 is subject to the approval of the Dental Board of the United Kingdom, not the General Medical Council as stated in our February Journal.

#### **AUSTRALIA:**

##### **Congress Notes**

The Congress Commission formed in Syd-

ney to organize the Ninth Australian Dental Congress, to be held in that city from August 16 to 20 next, is working hard to ensure the success of the great gathering.

All members of the Australian Dental Association are asked to bear the event in mind, and to attend if possible. The fee is £4/4/-. A comprehensive program is being prepared, and the essayists and clinicians will be the best obtainable.

The fact that the University of Sydney has placed its fine Medical School and other buildings at the disposal of the Commission for the whole week, indicates that there will be special rooms for the reading of scientific papers, and abundant separate space for the more satisfactory presentation of clinics, and for the displays given by the dental depots.

While the scientific and technical aspects of the Congress will receive every attention, the important feature of social entertainment will be carefully looked after.

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## **GENERAL NEWS**

#### **Our Congratulations to Dr. Arthur L. Walsh**

It is with particular interest and pleasure that we learn of the appointment of Dr. Arthur L. Walsh, Acting Dean of the Faculty of Dentistry, McGill University, to the Executive Committee of the American Association of Dental Schools. This appointment was made at the annual meeting recently held in Baltimore.

Ten years ago the late Dr. A. W. Thornton, Dean of this same School, was President of the organization and three years ago the late Dean Seccombe, of Toronto, was President.

Canadian dentists appreciate this friendly gesture on the part of the members of this organization, which plays such an important part in the development of dentistry from the educational standpoint.

#### **Our Congratulations to Dr. J. Menzies Campbell**

Canadian dentists will be interested to learn that one of our British correspondents, Dr. J. Menzies Campbell (himself a graduate in dentistry of U. of T.) has the somewhat unique distinction of recently having been elected Vice-President of two Societies, namely, (a) The West of Scotland Branch of the British Dental Association, and (b) The Odonto-Chirurgical Society of Scotland. The latter is oldest dental society in Britain, having been founded in March, 1867.

#### **Tokyo Dental College**

The Tokyo Dental College, 47 years old, is the oldest institution of its kind in Japan. The course of instruction covers a period of four years. Candidates for admission must have completed a five-year middle course in



Tokyo Dental College.

Japan. Women candidates are not admitted. As the number of candidates usually exceeds many times the maximum they are selected by an entrance examination in the following subjects: Mathematics, English or German, Japanese and Chinese languages, artistic skill in making certain things according to definite given calculations and character as to fitness for the profession.

Any foreigner who has passed the required entrance examination may be admitted as a regular student and after four years be awarded the graduates diploma with its attendant privileges. Foreign special students who possess a working knowledge of the Japanese language may at the discretion of the authorities be allowed to take the full course but are not entitled to practise in Japan. Any foreigner graduate who is entitled to practise in his own country may be exempted from the first two years and after completion of the fourth year will be awarded a graduate diploma, the same as in the case of special students. Post-graduate work may be done by foreigners in either English or German.

#### ■ Invitation to C.D.A.

A tentative invitation has been received by our C.D.A. secretary, from the president of the American Dental Association, for our Association to meet with the A.D.A. in Atlantic City in July.

While this gracious invitation is greatly appreciated by our entire membership, it does not appear practical to us to plan such a meeting at the present time, as our Association is not planning to meet for a number of months later.

#### New York University School of Education

Department of College Education  
Courses in Dental Education

#### ANNOUNCEMENT OF SUMMER COURSES

July 6—August 14, 1937

One of the functions of dental education is the education of the public in oral health in relation to general health. To be effective, public dental education must plan its program for the needs of children as well as of adults. Such programs should be under the supervision of dentists who are professionally trained in educational principles and in public health procedures. This need of trained teachers, directors and supervisors is recognized as dentistry's urgent problem of the day.

To meet these needs, the School of Education of New York University will offer, during the summer session of 1937, courses leading to graduate and undergraduate degrees.

Graduate dentists who wish to specialize in public dental education will be admitted to the degree courses upon meeting the prescribed academic and professional requirements.

Degree credit will be granted in all the courses to students who are matriculated in the School of Education, or who propose to matriculate in September, 1937.

The courses in public dental education will be given by Alfred John Asgis, B.S., A.M., D.D.S., Instructor in Dental Education, School of Education, New York University; Assistant Visiting Dentist, Bellevue Hospital, New York City; and by Harry Strusser, D.D.S., special lecturer in dentistry, Columbia University; Chief, Division of Dental Service, Department of Health, Bureau of School Hygiene.

Qualified students desiring to devote their full time should be able to complete the courses for the master's degree in two years, in one year and two summer sessions, or in summer sessions alone if properly planned.

For further particulars write to New York University, School of Education, Washington Square, New York, N.Y.

For complete details concerning requirements for matriculation, degrees, fees, etc., write for the School of Education bulletin.

### Ethics

It has been brought to the attention of the Dominion Dental Council that some D.D.C. certificate holders are drawing attention through signs on their doors to special methods of dental work such as gas administration, x-rays, etc., which is contrary to the Code of Ethics. The Council hopes that this reference will result in this practice being discontinued.

H. A. CROLL, *President,*  
*Dominion Dental Council of Canada.*

### Trial Offer of Service Bureau

Members of the St. Louis medical and dental societies who have not yet used the facilities of the Medical-Dental Service Bureau

may send their first patient without being charged the usual fee for service. This arrangement was adopted by the directors of the service bureau in a resolution passed at a recent meeting.—*Journal of the American Medical Association, Jan. 16, 1937. (A.D.A. Press Release Service).*

### Aid to Expression

An educationist speaking to a group of dentists said, "I believe you men as a profession are weak in expressing your ideas so that the layman patient will understand you," and continued, "Here's a little secret for you. Try reading to yourself out loud fifteen minutes each day. You will soon become more fluent."

## American Dental Association Atlantic City, New Jersey, July 12 - 16 Hotels

### SCHEDULE OF RATES

| ALL ROOMS WITH BATH ★                                          | —EUROPEAN PLAN—               |                   | Charge for Each           |
|----------------------------------------------------------------|-------------------------------|-------------------|---------------------------|
| BOARDWALK HOTELS                                               | ROOM<br>1 Person              | ROOM<br>2 Persons | Person for<br>Three Meals |
| AMBASSADOR, Boardwalk at Brighton Avenue.....                  | \$3-4-5-6                     | \$6-7-8-10        | \$4.00                    |
| BRIGHTON, Boardwalk at Indiana Avenue.....                     | \$3-4-5                       | \$5-6-7-8         | \$3.50                    |
| CHALFONTE-HADDON HALL, Boardwalk at North Carolina Avenue..... | \$3-4-6-8                     | \$6-8-10-12       | \$3.50                    |
| CHELSEA, Boardwalk at Morris Avenue.....                       | \$3-4-5                       | \$5-6-7-8         | \$3.00                    |
| CLARIDGE, Boardwalk at Park Place.....                         | \$4-5-6                       | \$6-7-8-11        | \$4.00                    |
| DENNIS, Boardwalk at Michigan Avenue.....                      | \$3.50-4-5-6                  | \$6-7-8-9-10      | \$3.00                    |
| KNICKERBOCKER, Boardwalk at Tennessee Avenue.....              | \$3-3.50-4                    | \$5-6-7-8-9       | \$3.00                    |
| MARLBOROUGH-BLENHEIM, Boardwalk at Ohio Avenue.....            | \$4-5-6                       | \$6-7-8-10-11     | \$3.00                    |
| NEW BELMONT, Boardwalk at Ocean Avenue.....                    | \$2.50-3                      | \$4-5-6-8         | E. P. Only                |
| RITZ-CARLTON, Boardwalk at Iowa Avenue.....                    | \$4-5                         | \$6-7-8           | \$3.00                    |
| STRAND, Boardwalk at Pennsylvania Avenue.....                  | \$3.50                        | \$6-7-9           | \$3.00                    |
| SEASIDE, Boardwalk at Pennsylvania Avenue.....                 |                               | \$6-7-8           | \$3.00                    |
| SHELBURNE, Boardwalk at Michigan Avenue.....                   | \$4-5                         | \$6-7-8           | E. P. Only                |
| TRAYMORE, Boardwalk at Illinois Avenue.....                    | \$3.50-4-5                    | \$6-7-8           | \$3.00                    |
| AVENUE HOTELS                                                  |                               |                   |                           |
| ARLINGTON, 116 S. Michigan Avenue.....                         |                               | \$9-A. P. Only    | \$2.00                    |
| COLTON MANOR, 110 S. Pennsylvania Avenue.....                  | \$3-3.50-4                    | \$5-6-7           | \$2.00                    |
| FLANDERS, 127 St. James Place.....                             | \$2.50-3-4                    | \$4-5-6           | \$2.00                    |
| FRANKLIN INN, 157 S. Virginia Avenue.....                      | \$3                           | \$4-5             | \$2.00                    |
| GLASLYN-CHATHAM, Park Place.....                               | Rooms With Running Water Only |                   | \$2.00                    |
| JEFFERSON, 136 S. Kentucky Avenue.....                         | \$3-3.50                      | \$5-5.50-6        | \$2.50                    |
| KENTUCKY, 126 S. Kentucky Avenue.....                          | Rooms With Running Water Only |                   | E. P. Only                |
| LAFAYETTE, 109 S. North Carolina Avenue.....                   | \$3-3.50-4                    | \$5-6-7           | \$2.00                    |
| MADISON, 123 S. Illinois Avenue.....                           | \$3-3.50-4                    | \$5-6-7           | \$2.50                    |
| MONTICELLO, 131 S. Kentucky Avenue.....                        | Rooms With Running Water Only |                   | \$2.00                    |
| MORTON, 150 S. Virginia Avenue.....                            | \$4.50                        | \$7               | \$2.50                    |
| PRINCESS, 144 S. South Carolina Avenue.....                    | \$4                           | \$5.50-7          | \$2.00                    |
| SENATOR, 166 S. South Carolina Avenue.....                     |                               | \$7               | \$2.50                    |
| STERLING, 144 S. Kentucky Avenue.....                          |                               | \$5               | \$2.00                    |
| THURBER, Atlantic and Massachusetts Avenues.....               | Rooms With Running Water Only |                   | E. P. Only                |

★ Rates on single and double rooms with running water available upon request.

## *The Coming Meeting in Saskatchewan*

Without question the next meeting of the Western Canada Dental Society promises to be the best that has ever been held by this organization. There is something most appealing in the expansiveness and liberality of the prairie provinces, and this contributes to the success of every enterprise undertaken by its citizens. The very impulse that induced men and women to leave their former homes and venture out to the great northwest had in it the germ of ambition and adventure, and this reaching out for the bigger and better things of life was typical of exploration in its best traditions. No wonder that men do things in the west. There is a certain "fine discontent" in people who refuse to be satisfied with conditions as they are, and who constantly long for something more expansive and venturesome and with greater possibilities for achievement than they have ever known before.

And this is the spirit that shall result in an outstanding meeting in Saskatoon.

*C. N. Johnson.*

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## IN MEMORIAM

**Frank D. Price**—of Toronto, Ontario, aged 71, died suddenly on April 5th in the general hospital. Dr. Price was born near Napanee, of United Empire Loyalist descent. He graduated from Trinity College and was one of the first graduates of the Royal College of Dental Surgeons. During his 45 years of practice he was keenly interested in x-ray work, being the first dentist in this part of Canada to use such equipment. He was an active member of the Toronto Dental Society and of the Ontario Dental Association.

About 1914 he erected a summer residence at Birch Cliff, more recently making his permanent residence there. He was instrumental in the establishment of the first church in Birch Cliff Heights and was Sunday School Superintendent there for many years. Previous to this he was active in Metropolitan Methodist Church and later at Sherbourne United Church.

Surviving are his widow, three sons, one daughter, five grandchildren, two sisters and two brothers, one of whom is the internationally known dental research worker, Dr. Weston A. Price, of Cleveland.

**James Eugene Taggart** — of Ottawa, Ontario, aged 61, died suddenly March 29th at his residence. The late Dr. Taggart retired a few years ago following thirty-seven years of continuous practice in the profession of dentistry. He was born at Shawville, Quebec, came to Ottawa as a boy in 1898, graduated from the Royal College of Dental Surgeons and immediately opened an office in Ottawa, where he enjoyed a very successful practice.

Dr. Taggart was an adherent of Glebe United Church, a member of the Rivermead Golf Club and the Wright Fish and Game Club.

He leaves to mourn his loss, his widow, two sons, one daughter, a grandson, one brother and one sister.

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**C. E. McIntosh**—of Stellarton, Nova Scotia, died March 11, of pneumonia. Dr. McIntosh bought a practice at Pincher Creek, Alberta, in 1929, where he practised until July, 1936, when he returned to his home town in Nova Scotia.

He is survived by his wife, father, four brothers and two sisters. Three brothers were killed in the Great War.

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**Albinus Clarke**—of Vancouver, B.C., aged 71, died on Monday, March 8. Dr. Clarke had retired from active practice.



## . . . SECTION FRANÇAISE . . .

Rédacteur.

ALCIDE THIBAudeau, D.D.S., A.I.D.O.,  
Professeur à l'Université de Montréal  
516 EST, RUE SHERBROOKE, MONTREAL

### COMITE DE REDACTION

Gérard Baillargeon, D.D.S.  
Paul Geoffrion, D.D.S., A.I.D.O.  
P. E. Lussier, D.D.S.  
P-E. Poitras, D.D.S.

Gérard de Montigny, D.D.S.  
Yves Lafleur, D.D.S.  
A. D. Milot, D.D.S.  
Jules Tétreault, D.D.S.

### REDACTEURS-CORRESPONDANTS

MARCEL DARCISSAC, M.D.,  
Lauréat de l'Académie et de la Faculté de  
Médecine de Paris.  
Stomatologiste des Hôpitaux de Paris.  
6 Avenue Marceau, Paris.

ALBERT JOACHIM, D.D.S.,  
Président du Quatrième Congrès Dentaire  
National Belge.  
3 rue de Hornes, Bruxelles.

HENRI VILLAIN, D.D.S.,  
Président de l'Association Générale Syndicale  
des Dentistes de France.  
45 rue de la Tour, Paris.

FRANCOIS ACKERMANN, M.D.,  
Médecin-dentiste.  
33 rue du Rhône, Genève.

JULES THEBAUD, D.D.S.,  
Doyen de l'Ecole Dentaire  
Port-au-Prince, Haïti.

## Le Congrès

**L**E temps passe vite et il est déjà loin ce deuxième Congrès dentaire où cinq cents dentistes de l'Amérique du Nord se réunissaient pour traiter des sujets dentaires, démontrer que l'activité scientifique n'était pas encore morte chez nos dentistes d'origine française.

Nous ne reviendrons pas sur le détail des magnifiques travaux présentés à ce Congrès, ni sur l'utilité de ces réunions scientifiques. Le docteur Thibaudeau s'est chargé lui-même, de démontrer dans l'Editorial du mois d'avril, l'importance de ces manifestations professionnelles et les fruits nombreux que nous devons tous en attendre.

Profitant de la circonstance qui nous est offerte nous faisons un dernier appel en faveur du 3ième congrès qui aura lieu les 27-28 et 29 mai. Celui-ci se tiendra sous le haut patronage du premier ministre de cette province et c'est le docteur

Denis Forest qui le présidera. On est dès à présent assuré du succès de ce congrès, auquel le gouvernement et les plus hautes autorités scientifiques ont accordé leur patronage. La séance inaugurale aura lieu à l'Ecole dentaire le 27 à 9.30 a.m. Le premier ministre a été prié d'honorer de sa présence cette solennité, où le Recteur, dont on connaît l'oeuvre éducationnelle admirable, prendra la parole.

Le programme à la fois théorique et pratique comportera toutes les questions à l'ordre du jour. Les démonstrations qui la plupart ont été cinématographiées occuperont trois journées entières et comprendront les sujets suivants—

Analgsie au Proloxyde d'Azote au moyen d'un nouvel appareil Clinique par le docteur Lucien Reeves.

Pellicule cinématographique sur la fabrication d'un pont tout en porcelaine

par les docteurs Sarrazin et Georges Larue.

Démonstration anatomique sur un crâne de merisier; cette démonstration sera donnée par le docteur A. L'Archevêque, auteur de ce crâne. Pellicule cinématographique par le docteur A. L'Archevêque.

Anatomie Comparée, démonstration par le docteur Viger Plamondon. Bridge-work Confection d'un pont sur overlays, Clinique par le docteur Théo. Côté. Thérapeutique employée dans les différentes maladies infectieuses dentaires, conférence donnée par le docteur Théo. Côté. Pellicule cinématographique sur l'articulation Intra et extra orale, par le docteur J. A. Pinault. Pellicule cinématographique sur l'impression au Paribar, au Dentocoll et sur la méthode du docteur Simon, par le docteur Gabriel Lord. Pellicule cinématographique sur une méthode nouvelle de radiographie des condyles, des tissus mous et durs de la face, par le docteur Gérard Bailargeon. Pellicule cinématographique sur les mouvements des condyles, tels que vus par un appareil de radiographie par le docteur Gérard Baillargeon.

Pellicule cinématographique sur une méthode personnelle de conserver indéfiniment le Dentocoll ou toute autre substance à impression par le docteur Paul Geoffrion.

Pellicule cinématographique sur la manière de prendre un masque de la figure au moyen du Negocoll par le docteur Paul Geoffrion. Méthode de polir des modèles que l'on veut conserver; démonstration par le docteur Paul Geoffrion. Présentation de patients traités à la clinique d'orthodontie de l'Université par le docteur Paul Geoffrion.

Fabrication de certains appareils employés en orthodontie par le docteur

Prévention de certaines formes de Joly.

malocclusion, clinique présentée par le docteur Paul Geoffrion.

Pellicule cinématographique sur l'anesthésie générale présentée par le docteur Moïse Clermont.

Préparation de la bouche avant la prise d'impression. Clinique par le docteur Gérard de Montigny.

Appareils pour fractures de maxillaires, clinique et démonstration par le docteur Gérard de Montigny.

L'ionisation par le docteur Thibaut, clinique et conférence. Le diagnostic en Chirurgie buccale, clinique par le docteur Ernest Charron. Le traitement de la pulpe exposée et de ses filaments nerveux, clinique par le docteur Kent. Trois siècles de littérature dentaire par le docteur P. E. Poitras. Méthode de coulée de dentiers partiels ou complets avec le Cialium. Clinique et démonstration par le docteur A. Bédard. Impressions en stents et plâtre, clinique par le docteur A. Bélair. Clinique sur la Pyorrhée par le docteur Gérard Plamondon. Film cinématographique sur la méthode employée dans l'ablation d'un frein hypertrophié par le docteur Gérard Plamondon. Vulcanisation, démonstration par le docteur Maurice Gosselin. Communication par le docteur A. Daigle. Communication sur la physiologie du Trijumeau par le docteur Penfield. Communication par le docteur Antonio Barbeau. Communication par le docteur Tétreault sur l'angine de Ludwig. Clinique sur l'ionothérapie par le docteur A. Milot. D'autres démonstrations seront encore données par les docteurs Charpentier, X. Laberge, Fortier, Reeves, Archambault, Lasalle et un dentiste universellement connu.

Mais en plus, de ces démonstrations pratiques, il y aura aussi des fêtes qui seront particulièrement brillantes. Banquets, exposition de modes pour les femmes des congressistes, Soirée d'hy-

giène dentaire, Pièces de théâtre, Réception au Cercle Universitaire, visite de la nouvelle Université, représentation de gala au Théâtre Saint-Denis, visite des Musées etc. . . . Enfin tout un programme spécialement conçu par le Comité des Dames sera réservé aux femmes des congressistes.

Nous avons eu à Montréal lors du 2ième Congrès des dentistes de langue française la grande satisfaction de voir réunis dans une même pensée d'union, toutes les manifestations de l'activité professionnelle. Il serait réconfortant

pour tous que pareille unanimité se retrouve de nouveau lors du 3ième Congrès. Tel est notre voeu le plus cher. Nous avons l'espoir le plus profond qu'il sera entendu de tous nos confrères, car il nous faut faire devant le monde scientifique une grande et belle manifestation qui démontrera encore une fois notre désir de bien faire et la vitalité que nous possédons. Donc que personne ne manque ce congrès; faisons le pour "l'Odontologie, une et indivisible, à travers le monde et à travers les âges."

*Paul Geoffrion.*

## L'Angine de Ludwig \*

par JULES TETREAU, D.D.S.

L'ANGINE de Ludwig, terme peu exact, fut d'abord décrite par Gen-soul et c'est à M. Gérard Maurel, mon sympathique professeur, que je dois la plupart des notions que je veux vous communiquer. A proprement parler, on ne devrait pas la considérer comme une angine qui est une inflammation de l'isthme du gosier\* et du pharynx. Elle est un phlegmon du plancher de la bouche ou si vous le préférez un phlegmon sus-hyoidien. De par sa nature, il est diffus, hyperseptique et gangréneux.

### *Etiologie*

Soixante-dix pour cent des cas que l'on rencontre ont une étiologie dentaire, qui est la gangrène pulpaire d'une molaire, le plus souvent de la troisième molaire, mais rarement d'une prémolaire.

Au point de vue pathogénique, elle se présente exactement comme un ostéophlegmon de la table interne de l'os. Pour la dent de sagesse, l'évolution est un peu différente. Elle se fait dans les parties molles, c'est-à-dire dans la région du capuchon muqueux ou du sac pé-

ricoronaire. Quelque soit le point de départ, l'infection, soit directement à travers les tissus, soit par l'intermédiaire du système lymphatique vient se localiser au plancher de la bouche.

Je signalerai encore comme cause possible la pyorrhée et même une extraction survenue en période d'accident. Permettez-moi, pour faire une digression de vous lire une observation faite d'un cas par M. Tellier. (Revue Stomatologique, mois de novembre 1936, page 770.)

"En dehors des causes dentaires, l'étiologie amygdalienne peut être responsable dans 15% des cas. Pour cette dernière, il peut s'agir d'une angine banale ou d'une angine gangréneuse." Quelque soit la cause, l'agent actif est toujours le même: le microbe qui travaille sur un terrain propice à son développement.

On y trouve aussi bien les microbes aérobies que les anaérobies. Parmi les microbes aérobies que l'on rencontre sont: le staphylocoque et le streptocoque, germes habituels de la suppuration.

\*Conférence prononcée à la Société Dentaire de Montréal, en mars 1937.

Les anaérobies  
sont

Bacillus perfringens  
Bacillus oedematiens  
Bacillus histolyticus  
Bacillus sporogène  
le vibron septique  
Bacillus bellonensis, découvert par Dufourmentel et Frison.

L'Institut Pasteur a également isolé le Bacille de Friedlander et le Pneumocoque.

Cette maladie peut évoluer aussi bien chez les hommes que chez les femmes, même chez les enfants. Toutefois, il semble y avoir prédilection chez les sujets débilités. Les symptômes que présente cette maladie sont plutôt d'ordre général, fait très intéressant à observer, contrairement à ce qu'on pourrait croire.

À la période du début, l'Angine de Ludwig peut nous conduire à des erreurs de diagnostic. Dans certains cas, elle débute de façon brutale; dans d'autres cas, elle débute insidieusement. Si le début est brusque, les phénomènes généraux s'accusent et la température s'élève aux environs de  $104^{\circ}$ . Le pouls devient très rapide et quelquefois irrégulier. Le facies du malade est grippé, l'état général est mauvais. Le patient souffre de dyspnée et les urines sont très diminuées. Les symptômes tout en étant à peu près les mêmes sont beaucoup moins marqués lorsque la maladie débute plus lentement.

Après avoir d'emblée observé ces phénomènes généraux, nous passerons aux phénomènes locaux, qui ont aussi leur importance. Ils se localisent tardivement à la région sus-hyoidienne. On les observe au début dans la région buccale du côté atteint. Au point de vue clinique, on trouve une induration tout à fait particulière qui, bien que diffuse, semble un peu localisée à un côté pour traverser du côté opposé à la suite. Ce n'est qu'à la période d'état que le plancher de la bouche est pris.

#### *Période d'état*

Ici le Dr. Maurel diffère d'opinion avec les classiques. Pour ces derniers, il

s'agirait d'une période très avancée de la maladie où le malade possède un cou énorme avec marbrures de la peau, des taches violacées ou même des phlyctènes et un épaissement de la bouche. C'est vraisemblablement la période terminale ou pré-agonique. D'après le Dr. Maurel, la période d'état serait celle qui débute très rapidement dans les 24 ou 48 heures. À cette phase, on constate un épaissement de la région sus-hyoidienne qui peut atteindre 3 ou 4 travers de doigts. Il n'y a aucune coloration de la peau. Le plancher de la bouche est complètement pris par une induration qui s'étend à la presque totalité de la région. Contrairement, à l'extérieur, la région sublinguale est plutôt molle mais soulevée à ce moment.

L'oedème du plancher de la bouche est relatif à la muqueuse et à la sous-muqueuse. Très souvent cette période est accompagnée d'un trismus plus ou moins marqué selon le point de départ. Si la cause provient de la gangrène pulpaire d'une centrale, ce qui est plutôt rare, le trismus sera moins considérable, mais il est toujours à craindre, car il complique de beaucoup le traitement.

À la période d'état, parmi les symptômes généraux, j'attire votre attention sur le fait que le pouls n'est pas proportionné à la température, contrairement à ce qu'on observe dans les phlegmons circonscrits. Retenez bien ceci: le fait a une grande valeur diagnostique; le pouls peut atteindre 140-160 pulsations à la minute avec une température de  $103-104^{\circ}$ . On trouve en plus des intermittences, des irrégularités. Il se précipite, puis il ralentit brusquement. Au lieu d'être ferme, il est dépressible.

Le malade est atteint de dyspnée toxique, c'est-à-dire qu'il éprouve beaucoup de difficulté à respirer, d'où accélération de ses respirations. Au lieu de 15 respirations—à la minute, il peut en avoir 30 et 35. Comme tous les intoxiqués, il



souffre d'urémie. Au lieu d'uriner  $1\frac{1}{2}$  litre par jour, le malade n'élimine que 100 à 200 grammes.

Son facies attire également notre attention; les yeux sont encaqués, le teint est bistré et les traits plus prononcés. En un mot, vous êtes en face d'un spécimen de toxémie.

Inutile d'ajouter que si l'on n'intervient pas, la période terminale est inévitable.

Je vous énumérerai encore brièvement les symptômes, qui tout en étant les mêmes, s'accroissent d'avantage à la période terminale.

L'œdème du cou et de la face peut s'étendre de la région carotidienne à la région sus-claviculaire dans certains cas. Il y a des phlyctènes (soulèvement de l'épiderme), des marbrures de la peau. Du bouillon sale et des gaz peuvent aussi faire issue dans la région sublinguale, disent des classiques. "La température demeure toujours aux environs de  $104^{\circ}$ , le pouls devient à peine perceptible tout en étant très rapide (190-200). Le pouls et le cœur ont des intermittences et si on ausculte le cœur, on entend des bruits assourdis, qui signifient qu'il s'agit d'une véritable myocardite toxique."

"Le patient atteint de cette terrible maladie peut mourir dans les quarante-huit heures ou trois jours, si l'évolution a été brusque, même après l'intervention." (Dr. Maurel, texte de l'auteur).

Il est très difficile de pronostiquer la fin heureuse ou fatale de la maladie, à cause des complications à distance qui peuvent survenir. Les plus redoutables sont la gangrène pulmonaire et les complications septiques broncho-pulmonaires. D'autres moins dangereuses sont des fusées purulentes dans la région avoisinante des tissus mous et des foyers d'ostéite avec leurs complications pour le maxillaire inférieur, s'ils ne sont pas enrayés.

## Traitement

Il est difficile de se tromper avec des symptômes aussi bien déterminés. Mais encore faut-il qu'ils soient tous réunis pour établir un diagnostic différentiel avec l'ostéo-phlegmon.

Dès que vous vous trouvez en présence d'un cas d'Angine de Ludwig, le seul remède efficace est l'intervention chirurgicale et cela le plus tôt possible. L'opération consiste à intervenir dans la région sus-hyoidienne. L'incision sera profonde et comprendra le muscle mylohyoïdien et la muqueuse buccale. L'anesthésie régionale devra avoir la préférence sur l'anesthésie générale, afin d'éviter au malade un autre choc violent, qui pourra compromettre sa guérison. Si on choisit l'anesthésie générale, il est de toute nécessité qu'elle soit de courte durée.

Le succès de l'opération dépendra de la rapidité de l'intervention. On fera une incision centrale et une autre latérale suffisamment large pour qu'on puisse insérer 2 gros drains d'un pouce de diamètre dans chaque ouverture. Généralement, de cette incision s'écoule un bouillon sale. Il ne faut pas s'attendre à voir l'apparition de pus à ce moment.

À côté de ce traitement, un autre s'impose: c'est le traitement sérothérapique. Il est aussi important que le traitement chirurgical. Voilà pourquoi il convient de les entreprendre simultanément.

La nature gangréneuse de cette maladie nécessitera un sérum anti-gangréneux. L'Institut Pasteur a mis dans le commerce deux sortes de sérum. L'un est un sérum anti-gangréneux ordinaire, l'autre un sérum anti-gangréneux polyvalent.

|                                 |   |                         |    |
|---------------------------------|---|-------------------------|----|
| La formule<br>du premier<br>est | { | sérum anti-perfringens  | cc |
|                                 |   | sérum anti-vibrien      | 40 |
|                                 |   | sérum anti-oedematiens  | 20 |
|                                 |   | sérum anti-sporogènes   | 20 |
|                                 |   | sérum anti-histolyticus | 10 |

Ces différents sérums existent en ampoules séparées que l'on mélange dans 500 cc de sérum physiologique. Le total constitue la dose à administrer au malade; afin d'éviter des accidents anaphylactiques possibles, il est prudent d'injecter une dose minime d'abord et d'en surveiller la réaction. A un quart d'heure d'intervalle, si le patient ne réagit pas, une seconde injection sera donnée et ainsi de suite.

L'injection sera sous-cutanée ou intra-veineuse selon la gravité du cas. Le sérum anti-gangréneux polyvalent a une formule à peu près identique:

- 4 parties d'anti-perfringens
- 4 parties d'anti-vibrien septique
- 2 parties d'anti-oedématisans
- 1 partie d'anti-sporogène
- 1 partie d'anti-histolyticus

Il a le grand avantage d'être présenté dans le commerce tout préparé. On se le procure en ampoules de 20cc, que l'on mélange dans 500 cc de sérum physiologique.

Si jamais vous êtes en présence d'un cas d'Angine de Ludwig, à la période de début, ou que des symptômes plutôt vagues vous laissent dans le doute, il serait sage de recourir au sérum polyvalent à titre préventif. Nous avons de plus à lutter contre l'abondance des germes du groupe streptococcique que l'on rencontre, appartenant presque tous à la variété hémolytique et présentant dans l'ensemble une virulence extrême.

Mais dans ce but une sérothérapie plus étroitement spécifique vis-à-vis du streptococque sera employée.

Le sérum antistreptococcique que nous fournit l'Institut Pasteur sera employé à dose de 30 à 40 cc par jour, pour une période de 3 ou 4 jours. Si l'action de ce dernier est insuffisante, on aura recours au sérum antistreptococcique antitoxique.

#### *Soins post-opératoires*

Les soins post-opératoires jouent un rôle primordial pour la guérison du malade. Dans les premiers jours qui

suivront l'intervention, des lavages au bœck devront être faits régulièrement trois fois par jour avec une solution de liqueur de Labarraque ou une solution de Dakin analogue à cette dernière. On appliquera des pansements humides autour des drains. Ceci malheureusement a pour inconvénient de macérer la peau. Afin de parer à cet inconvénient, on enduira l'épiderme spécialement autour des drains, d'une pommade à base d'oxyde de zinc et de Lanoline.

Il est de toute importance de soutenir le cœur au moyen de spartéine ou d'huile camphrée qui sont considérées comme les médicaments toni-cardiaques par excellence. Pour les patients atteints d'insuffisance des surrénales, on emploiera l'adrénaline.

Malgré tous ces soins le pronostic ne peut être bon, si on ne réussit pas à activer normalement le fonctionnement des reins. A cet effet on prescrira des diurétiques tels que la tisane de chien-dent, la tisane de queues de cerises, les eaux minérales ou des injections de sérum glucosé.

Il nous semble que cet ensemble de médicaments, bien administrés, devraient à eux seuls être suffisants pour assurer une guérison complète.

L'expérience démontre que la gravité de cette angine, très difficile à combattre malgré toute l'attention que la science médicale met à sa disposition, ne veut à aucun prix nous laisser gagner la partie.

Il reste encore des complications pulmonaires pour éprouver la vigilance du thérapeute. La dernière préoccupation de celui-ci sera de surveiller son malade afin de lui éviter une infection pulmonaire qui peut survenir même en période de convalescence. Cette complication, je vous l'ai dit, peut être une bronchite banale, une broncho-pneumonie banale mais surtout une gangrène pulmonaire.

Il est évident que lorsque la maladie se complique d'un trouble pulmonaire le

pronostic s'assombrit d'avantage. L'application de ventouses sera ici d'un grand auxiliaire pour prévenir cet accident. On aura soin de maintenir le patient en position assise dans son lit et de lui recommander de ne pas ingurgiter des expectorations ainsi que les différents exudats de tissus sphacelés.

Sa chambre sera désinfectée avec des vapeurs eucalyptolées. Elles auront pour double avantage d'aseptiser les voies respiratoires et d'aider à enrayer les complications possibles.

Sa situation restera encore dangereuse pour quelques jours. Si le patient survit jusqu'au quatrième jour, le pronostic devient meilleur. Tous les symptômes généraux accusent une amélioration progressive.

Localement on constate "d'abord la suppression de l'odeur extrêmement fétide qui se fait à partir du quatrième jour ou du cinquième jour et qui avait auparavant diminué; la suppression presque immédiate des gaz et du bouillon sale et le remplacement du bouillon sale par une véritable suppuration, à partir du deuxième ou troisième jour, quelquefois plus tard.

Dès l'apparition du pus franc et bien lié, tel qu'on en trouve dans les phlegmons, on peut dire que la partie est gagnée ou à peu près. L'induration disparaît graduellement et la guérison se fait d'après le processus habituel.

### Conclusions

En face d'une maladie aussi grave que celle-ci, nous devons nous demander si nous sommes en état de répondre à toutes les obligations et complications de notre profession. Permettez-moi de vous demander si nous avons toujours fait notre possible pour opérer dans des conditions antiseptiques convenables? Je comprends que certaines infections sont inévitables à cause du milieu septique dans lequel nous travaillons. Mais combien d'infections banales pourraient devenir sérieuses et cela par la faute de praticiens peu soucieux.

La responsabilité est plus grande qu'on semble le croire. "Sur un mauvais terrain, une extraction même facile peut donner des complications," dit Fillderman. On enlève des dents avec une force brutale sans songer aux troubles post-opératoires et humoraux qui en découlent. On ne songe qu'à établir un record de vitesse.

Le Docteur Dufourmental insiste sur la gravité des pesées, des efforts exercés sur un os durant une alvulsion dentaire. "Un maxillaire est toujours un peu flexible; quand vous faites sur lui une pesée violente, vous déterminez de l'éclatement à l'intérieur du tissu osseux. Ce ne sont pas seulement des ruptures de travées osseuses, mais des ruptures de tissus mous, veinules et petits vaisseaux lymphatiques. Vous faites de la diffusion d'infection et vous coupez les voies de défense."

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### Le docteur L. R. Lafond décoré

M. J. Etienne Maigret, consul de France à Boston, a remis, il y a peu de temps, la croix de la Légion d'honneur au docteur L.R. Lafond de Lewiston, Maine.

Nos confrères savent quelle estime nous avons pour ce compatriote qui nous fait honneur dans son pays.

On se rappelle, sans doute, que récemment encore, l'Université de Montréal lui conférait le titre de Docteur honoris causa. Voici maintenant que la France, à son tour, honore notre confrère; nous nous en réjouissons et lui offrons toutes nos félicitations.

# Le Traitement de Choix de la Stomatite de Vincent

Emploi de peroxyde d'hydrogène  
(*Le Siècle Dentaire*, avril 1937.)

**L**A stomatite de Vincent est maintenant une entité clinique reconnue. Cette maladie peut être le résultat de beaucoup de maladies débilitantes mais cependant elle apparaît le plus souvent chez des individus sains ayant une hygiène buccale insuffisante et des dents cariées.

La gravité de la maladie est conditionnée par la résistance de l'individu aux infections et par la virulence des microbes en cause.

La maladie est caractérisée cliniquement par une douleur, une enflure des gencives, de l'hyperhémie et une haleine fétide.

Les gencives sont souvent couvertes d'une pseudo-membrane grisâtre, remarquent Farrell et McNichols de New-York qui viennent de consacrer au traitement de la stomatite de Vincent une longue étude.

Quand cette membrane desquame il se produit un abondant écoulement de sang.

Le malade souffre d'un état fébrile accompagné de tremblement et d'une diarrhée entraînant une perte de poids par deshydratation.

La salive est épaisse et abondante. Le malade est nerveux et refuse de manger.

Dans tous les cas et quel que soit le traitement employé, les auteurs estiment que pour hâter la guérison il convient d'assurer une prophylaxie parfaite des dents et de traiter et supprimer toutes les causes mécaniques d'irritation.

En outre, les malades atteints de stomatites de Vincent doivent s'abstenir de fumer des cigarettes et de boire des alcools. Les fumeurs sont très susceptibles à cette infection et font souvent des réinfections.

L'usage constant des cigarettes peut déterminer une gingivite chronique.

Par contre, les auteurs font remarquer que si les fumeurs de cigarettes sont parmi les plus infectés, les chiqueurs de tabac le sont très rarement; sur 3,800 malades examinés en deux ans et demi, les auteurs n'ont pas vu un seul chiqueur de tabac.

Les auteurs expérimentèrent divers traitements. Ils traitèrent d'abord 23 cas par injections de sels arsenicaux, à raison de doses totalisant trois grammes de substance active. Quatre de ces malades guérissent parfaitement; beaucoup virent leur état s'améliorer énormément dès le quatrième jour après le traitement. Cependant ce traitement n'est pas parfait.

Un autre qui paraît meilleur est celui qui consiste dans le traitement local par une solution de peroxyde d'hydrogène; les autres sels arsenicaux sont également très efficaces. On doit éviter le traitement chirurgical dans les infections de type léger, mais on peut y recourir dans les formes graves.

Plus longtemps le malade est resté sans traitement, plus longue et plus grave sera l'infection. La solution de peroxyde d'hydrogène reste la première phase du traitement de l'infection de Vincent. Les auteurs estiment même qu'on ne peut arriver à une guérison totale si on ne l'emploie pas. Ils ajoutent d'ailleurs qu'on peut l'employer en combinaison avec un autre médicament.

La solution de peroxyde d'hydrogène ne doit pas être employée avec excès; on ne doit en donner que quatre fois par jour au maximum.

Dans quelques cas cependant on obtient une guérison plus rapide si on en donne plus souvent.



# Troubles Mentaux et Maladies des Dents sont Parfois Intimement Liés

*Le Siècle Dentaire, décembre, 1936.*

Une étude d'un chirurgien dentiste américain.

**L**ES effets à distance d'une infection focale des dents sont multiples. Cotton, de New-York, a même été jusqu'à formuler la théorie que des troubles mentaux graves, la démence précoce entre autres, pouvaient résulter d'une longue négligence à l'égard de ces invasions bactériennes.

Des recherches successives ont montré que l'extraction d'une troisième molaire cariée et infectée améliorait grandement les états psychopathologiques. Les infections dentaires peuvent déterminer des troubles tellement éloignés du point de départ que le médecin ne songe pas toujours à faire le rapprochement.

Des troubles nerveux peuvent aussi naître d'une infection focale quand ce ne serait que l'excessive irritabilité néfaste à la vie sociale.

Dans une étude faite sur des enfants, Fred Brown, de Colombus (Ohio), constate que les maux de dents sont plus fréquents chez les enfants nerveux que chez les autres. Une expérience faite sous les auspices du comité d'hygiène buccale de l'Association nationale dentaire a donné des résultats précis concernant l'hygiène mentale et ses rapports avec la dentisterie.

Vingt-sept enfants d'âge scolaire souffrant de maladies des dents et des gencives, d'une infection buccale et souvent aussi d'une alimentation défectueuse furent soignés et reçurent des conseils d'hygiène dentaire et de mastication des aliments.

En même temps des tests psychologiques furent faits sur eux, deux groupes avant le commencement de l'expérience, deux pendant et deux au bout de deux ans après le premier examen.

Les tests montrèrent qu'avant traite-

ment beaucoup d'enfants étaient arriérés et que leur retard mental oscillait de 1 à 4 ans dans leur travail scolaire. Pendant le traitement ils firent des progrès et un seul d'entre eux ne put avancer de classe, par contre six autres firent de tels progrès qu'ils passèrent une classe.

Après le traitement les nouveaux tests montrèrent que le niveau mental moyen était de 55% plus élevé qu'il était avant le traitement.

Il est certain qu'un enfant souffrant de maux de dents et par suite de maux de tête est d'humeur irritable et est facilement inattentif à l'école. Son impossibilité de se maintenir en bon rang crée chez lui un sentiment d'infériorité, il se sent peu à peu en marge et cette conception psychique est probablement à la base de certains délits.

Brown ne craint pas d'ajouter que nombre de ménages "marchent mal" parce que l'un des conjoints souffre des dents. Le mal de dents crée une irritabilité néfaste à l'équilibre conjugal et il détermine souvent une fétidité de l'haleine qui gêne l'interlocuteur immédiat.

En outre, en Amérique, où le sourire a une importance sociale exagérée une mauvaise dentition crée un complexe d'infériorité qui entraîne lui aussi des troubles mentaux.

Le dentiste mis en présence de cas où les troubles dentaires ont déterminé des troubles psychiques doit évidemment les envoyer au psychiatre. Mais en outre le dentiste doit dans son travail même tenir compte de l'état mental particulier de son client.

Il doit être très pondéré et sûr de lui, la conversation avec le client entre les attouchements est d'une extrême importance et Brown en fait l'éloge avec des démonstrations pratiques à l'appui.

# Revue des Revues

par GERARD DE MONTIGNY, B.A., D.D.S., M.S.D.

## *The Dental Digest*, livraison de février 1937.

"UNE TECHNIQUE SIMPLIFIEE POUR LES INCRUSTATIONS", par Thomas H. Ragatz, D.D.S., Prairie du Lac, Wisconsin.

La technique de l'auteur se résume à diminuer le volume de l'"investissement", entourant la cire et par ce faire à abrégier la durée du chauffage pour l'évaporation de la cire. La technique ordinaire ne subit que peu de modification, si ce n'est dans la dimension de l'anneau à coulée et dans le volume de la substance réfractaire.

"LA CONSTRUCTION PRECISE DES COURONNES DE PLATINE EMAILLEES" par E. C. Clendenin, D.D.S., Palo Alto, Californie.

L'auteur nous donne en détail une méthode pour la fabrication des couronnes en porcelaine, qui diffère des techniques ordinaires. Il emploie un articulateur spécial, qui donne à la couronne le maximum de précision pour ses points de contact avec les dents adjacentes et les dents antagonistes du maxillaire opposé. Cet appareil de précision s'appelle l'instrument de Stanbury.

"CE QUE DOUZE CENTS PATIENTS CONNAISSENT DE LA DENTISTERIE", par la rédaction.

La rédaction du journal poursuit son enquête sur les connaissances dentaires du public américain. Les questions posées, ce mois-ci, sont les suivantes: 1) Quelle est, d'après vous, la cause de la carie dentaire? 2) Désiriez-vous une injection de solution anesthésique locale pour le fraisage d'une dent? 3) Que vous suggère le mot "pyorrhée"?—En quoi consiste cette maladie? Comme les réponses des patients sont intéressantes et nous montrent l'idée que se font les patients de nos traitements!

"L'OSTEOMYELITIS: FORMATION DE SEQUESTRE AU BORD INFERIEUR DE LA MACHOIRE", par Jérôme M. Schwlitzer, D.D.S., New York.

L'auteur passe en revue l'ostéomyélite, ses causes, ses symptômes, sa pathologie, son traitement, son pronostic, et ses complications. L'article n'apporte rien de bien nouveau, si ce n'est l'ablation d'un séquestre comprenant tout un côté du bord inférieur de la mâchoire. Il nous plaît de noter ici une différence, qui existe entre les écoles européennes et américaines, quant au traitement de cette infection; tandis que les américains n'ont recours qu'à l'incision et aux lavages, les européens se servent de vaccins, qui s'opposent au développement des bactéries.

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## *Dental Items of Interest*, livraison de mars 1937.

"PREPARATION CHIRURGICALE DE LA BOUCHE, EN VUE D'UNE PROTHESE RESTAURATIVE", par Irving Salman, D.D.S., New York.

Le Docteur Salman nous montre ce que devraient être des crêtes alvéolaires idéales pour une prothèse vraiment restaurative et nous illustre le rôle de la chirurgie dans la correction des défauts héréditaires ou acquis des crêtes. L'auteur nous apporte de beaux spécimens, mais nous aurions aimé à connaître ses techniques pour l'ablation de ces anomalies de la bouche.

"DIAGNOSTIC ERRONE ET MAUVAISE INTERPRETATION RADIOLOGIQUE", par Herman Ausubee, D.D.S., Brooklyn, N.Y.

L'auteur nous parle de diagnostic et nous cite plusieurs cas, qui lui furent

soumis où les dentistes et les médecins avaient complètement ignoré la vraie cause de l'état pathologique des patients parce que les examens n'avaient pas été complétés. Les cas présentés par le Docteur Ausubel sont des plus intéressants et la marche suivie dans ses examens est pleine de logique et de clarté.

"OBSTRUCTION PARTIELLE DU CANAL DE

STENON PAR UN CORPS ETRANGER'', par Joseph Mitchell, D.D.S., Long Island City, N.Y.

L'auteur nous montre, avec preuve à l'appui, comment des corps étrangers peuvent se loger dans les canaux des glandes salivaires, se couvrir de couches de sels de calcium, bloquer le diamètre des canaux et occasionner toutes les manifestations ordinaires d'obstruction de canaux.

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## Nouvelles des Sociétés Dentaires de la Province

A la Société Dentaire de Montréal

Le conférencier de la séance du mois de mars était le Docteur Jules Tétreault, qui présenta une communication sur "l'Angine de Ludwig". Le Docteur Tétreault, qui revient d'un stage dans les hôpitaux d'Europe fit une revue complète de l'étiologie, des symptômes, de la pathologie, du traitement et des suites post-opératoires de cette maladie.

L'invité d'honneur fit part de ses impressions sur la science dentaire européenne et établit des comparaisons intéressantes entre l'enseignement de notre école dentaire et les écoles de Paris.

Le Docteur Tétreault fut présenté par le Docteur Gérard de Montigny et remercié par le Docteur Ernest Charron.

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### L'Université Honorée

Rome vient de décerner, à M. O. Maurault, p.S.S., recteur de l'Université de Montréal, le titre de prélat domestique. Au moment où cette grande institution subit l'assaut de puissances occultes,

Rome l'honore dans son recteur. Les catholiques au moins comprendront-ils ce geste? Nous offrons donc nos plus sincères félicitations à Monseigneur et à l'Université.

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### En Commémoration

Au cours du mois dernier, est décédé à Québec le docteur L. A. Lebon. Nous regrettons la disparition de ce confrère qui durant de longues années défendit

avec ardeur les intérêts de sa profession.

Nous prions sa famille d'accepter nos plus vives sympathies.

# Suggestions Pratiques

*Radiographie:* Le patient peut se rendre utile durant la prise des films, en tenant un volume appuyé fortement sur son menton.

*Pour la disparition des taches de nitrate d'argent:* badigeonner les taches avec une teinture d'iode et déposer ensuite une solution de perborate de sodium aux endroits tachés.

*Insertion de ciment dans une cavité:* pour que le ciment n'adhère pas aux instruments, les plonger dans l'alcool avant de les mettre en contact avec le ciment.

*Insertion de gutta-percha:* pour que la gutta-percha n'adhère pas aux instruments, plonger ceux-ci dans une poudre de talc avant de les mettre en contact avec la gutta-percha.

*Contre-indications à l'extraction de dents:* 1) n'extrayez pas une dent sans radiographie; 2) n'extrayez pas de dents quand une de celles-ci cause une fluxion aiguë au patient; 3) n'extrayez pas de dents dans une bouche malpropre; 4) ne pratiquez pas d'extraction sous anesthésie générale sans l'aide d'un assistant; 5) n'extrayez pas de dents sous anesthésie générale sans que tous vos instruments soient prêts et que vous ayez sous la main tout ce qui peut vous servir dans un cas d'urgence; 6) n'extrayez pas de dents sous anesthésie générale s'il se trouve des étrangers dans votre salle d'opération; 7) n'extrayez pas de dents sous anesthésie générale sans avoir au préalable attaché votre patient sur la chaise; 8) n'extrayez pas de dents chez un enfant à sa première visite; essayez de remettre cette opération à une visite subséquente.

Gérard de Montigny.

1—*Plaque de verre:* Un morceau de digue humecté, mis sous une plaque de verre, rendra suffisamment stable cette dernière pour malaxer un ciment ou un silicate d'une seule main, si nécessité il y a.

2—*Amalgame de cuivre:* Malgré sa courte durée, nous sommes parfois forcés d'employer l'amalgame de cuivre à cause de ses propriétés antiseptiques. Pour le rendre permanent il suffit de le recouvrir d'une couche d'amalgame d'argent bien condensé.

3—*Celluloïde:* Une solution épaisse de celluloïde et d'acétone donnera un liquide très utile à réparer et à coller le plâtre brisé.

4—*Plâtre:* Séparer une impression est parfois difficile. Le travail sera simplifié en immergeant le modèle durant quelques minutes dans de l'eau tiède. Une fois l'eau infiltrée entre les deux pièces, la séparation deviendra facile.

5—*Fraise à fissure:* Une fraise à fissure émoussée peut encore rendre des services en biseautant la tête à l'émeri. Elle attaquera rapidement un vieil amalgame et pourra percer facilement l'émail.

6—*Point de contact:* Si le point de contact de deux dents a été perdu à la suite d'une carie il est nécessaire de le reconstituer. Si l'obturation est un *inlay*, il sera sage de grossir légèrement la paroi axiale de façon à le forcer en place. L'avantage sera non seulement de faire un bon point de contact mais aussi de restaurer les points de contact des dents voisines. La gêne éprouvée par le patient ne sera que de courte durée.

Paul E. Poitras. \*



## Melancholy

It is possible to be a hero in the face of the great blows of fate. Death, ruin, shipwreck, can be borne with a head unbowed. But it is not possible to be a hero in the face of pin pricks. You can really overlook the pricking a couple of times; and then you can pretend a few more times that you didn't notice it; but when it comes to the tenth or fifteenth prick, all your heroism leaves you.

Melancholy, the severest grief of life, is a suffering from small causes. It is the severest because it does not give way before heroism. It is in any case a weakness, or rather a defencelessness in the face of petty ills.—*Karel Capek, in the "Atlantic Monthly."*



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# The Journal

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## The Coagulability of the Blood and the Clinical Significance of Errors of Coagulation\*

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SO LONG as the blood remains within the confines of the normal vascular system, it is liquid. Shortly after it leaves the blood vessels it is converted into a solid. This coagulation of shed blood is Nature's method of preventing serious loss of blood or haemorrhage. Should anything interfere with the clotting power of the blood, or if this property be deficient in any way, the individual so affected is in danger of abnormal loss of blood which may result in shock, anaemia or even death. Fortunately, errors of coagulation are encountered rarely but they occur sufficiently often for surgeons to be always on the alert with respect to them. It is less embarrassing to anticipate the existence of a bleeding tendency in a patient and to prepare accordingly than to be faced with an unexpected emergency during or after an operation.

### GENERAL DESCRIPTION OF THE CLOTTING PROCESS

If some blood be collected into a test-tube it will be found, at the end of five

or six minutes, to have lost its fluidity and to have set into a jelly. The tube may be inverted but the blood, which is now said to have clotted or coagulated, does not escape. In order to make the discussion more real, let us imagine that this clotting process has taken place within the socket of a tooth after the tooth has been extracted. If it were possible to magnify this clot many-fold and to look within it, it would be found to be composed of a tangled mesh of very delicate fibrils, among which are entrapped, as in a net, the red and white blood cells and many fragmented platelets. The fine threads are filaments of fibrin, derived during the clotting process from the fibrinogen of the blood plasma. They may be seen in many places to radiate from centres formed of blood platelets and represent the fibrinogen of the plasma which has changed into an insoluble form. If the clot is permitted to stand for an hour or so, it will be found to have shrunk and, in shrinking, to have expressed from its substance a clear, faintly straw-coloured fluid. This

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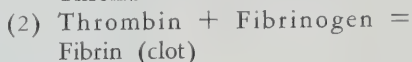
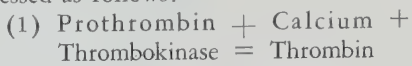
is the serum which remains perfectly fluid and is totally incapable of clotting. The shrinking and condensation of the clot is due to the gradual shortening of the fibrin threads. This contraction or retraction of the clot is an important quality. In order to fulfil its function as a preventive of haemorrhage, a blood clot must be firm, solid and resistant. A soft, friable, jelly-like clot is not much good for mechanically plugging a rent in the tissues. It can not resist the pressure of the escaping blood and becomes easily dislodged.

So the essential feature of the clotting mechanism is the conversion of the soluble fibrinogen of the blood plasma into insoluble fibrin. The factors responsible for this change are rather complicated and not perfectly understood. There is no generally accepted theory of blood coagulation. After all, you, as practitioners, are probably not especially interested in theories and may be content to leave such matters to the physiologists to ponder over. However, I shall indicate some of the more important factors which are thought to be concerned in the phenomenon of the clotting of blood.

The conversion of the soluble fibrinogen to the insoluble fibrin is brought about by a ferment-like substance called thrombin. Thrombin is not found normally in the circulating blood, but, when blood is shed, it is formed from an inactive precursor, pro-thrombin, which is present in considerable amounts in normal blood.

The platelets, when they come into contact with a water-wetted surface, agglutinate, then disintegrate and liberate a substance known as thrombokinase or thromboplastin; similar material is contributed by the damaged tissues over which the blood flows. The thrombokinase thus formed, in the presence of ionic calcium, rapidly activates the large amounts of pro-thrombin, which is

present in the plasma, into thrombin, which in turn coagulates the fibrinogen into fibrin. The reactions can be expressed as follows:



*The Blood Platelets:* From a practical standpoint, the most important factor in the normal clotting of blood concerns the blood platelets or thrombocytes. In order for a perfect clot to be formed, these must be normal in number and function. The platelets are small particles of protoplasm, much smaller than red blood cells, believed to be formed in the bone marrow. As I have said, when blood is shed, the platelets first of all agglutinate, that is, come together in clumps, then disintegrate. When this process is observed by means of a special type of microscope, the platelets can be seen to burst like minute skyrockets and, from the place where the platelets were, filaments of fibrin radiate. Two abnormalities of the platelets may occur, namely, a deficient number of platelets which is called thrombocytopenia and secondly, increased resistance of the platelets whereby they do not disintegrate and liberate thrombokinase in a proper manner.

There are, of course, other important factors which contribute to the spontaneous cessation of haemorrhage such as contact of the blood with damaged tissues, the character of the capillary walls and the contractility and retractility of the severed blood vessels.

*Anti-prothrombin (Heparin):* Since the circulating blood contains calcium and since the tissues of the body are continually breaking down, why does the blood remain fluid in the vessels? In other words, what prevents pro-thrombin from being converted to thrombin within the body? The answer is that an anti-prothrombin, a substance which is known



also as heparin, is present in the circulating blood and holds in abeyance the reaction between pro-thrombin and calcium. Thrombin can not be formed, therefore, or, if a small quantity should be formed, it is neutralized immediately by an anti-thrombin. This anti-thrombin exists normally in small amounts in the blood and serves as an extra safeguard against intra-vascular clotting. When blood is shed, the thrombokinase which is liberated from the injured tissues and from the platelets neutralizes the anti-prothrombin and so allows the conversion by calcium ions, of pro-thrombin to thrombin.

#### INTRA-VASCULAR CLOTTING— THROMBOSIS

Sometimes clots do form within the circulation constituting a pathological state which is always serious. Intra-vascular clotting involving areas of varying extent may occur in the human body from several causes. It is very doubtful whether this ever occurs as a direct result of an increase in any of those elements of the clotting mechanism normally present in the circulating blood, e.g., pro-thrombin, calcium or fibrinogen; or of a reduction in anti-prothrombin or anti-thrombin. The liberation of thrombokinase results, of course, when tissue cells are injured and under certain circumstances the endothelium lining the blood vessels becomes damaged. The effect of this, however, is believed to be confined to the region in the immediate neighbourhood of the injury. It is unlikely that the liberated thrombokinase is capable of exerting an effect upon the blood as a whole and cause clotting in remote parts of the vascular system.



The usual cause of thrombosis is disease of the veins, i.e., phlebitis; of the larger arteries, particularly atheromatous changes—a type of arteriosclerosis; or damaged heart valves due to endocarditis. The process begins with the deposition on the damaged walls of the blood channel of masses of platelets. The local formation of thrombokinase occurs, then of thrombin and so a fibrin network is formed which entangles the passing red and white blood cells.

The formation of a compact and solid mass of blood in a vessel (vein or artery) which partially or completely closes its lumen is spoken of as thrombosis. The plug itself is a thrombus. When a thrombus or a portion of it becomes detached and carried away in the blood stream to become impacted in a vessel at some distant part of the circulation, it is spoken of as an embolus. The obstruction to the circulation of a part of the body due to an embolus seriously affects the nourishment of the tissues in the

region affected. The isolation of an area in this way by the obliteration of its artery is spoken of as infarction and the necrotic area which results as an infarct.

Slowing of the circulation favours intra-vascular clotting. In auricular fibrillation stagnation of the blood occurs as a result of paralysis of the auricles. Should co-ordinated rhythm of the heart muscle be restored as a result of treatment, the clot may shift and plug a vessel in the lung or brain.

Post-operative thrombosis and embolism causing infarction of the lungs occurs in a small proportion of cases constituting a rather serious post-operative complication.

Not infrequently, particularly in elderly subjects with low blood pressure and sclerosis of the veins as well as of the arteries, thrombosis of the cerebral vessels ensues. This causes marked changes in the functions of the brain and a condition known as "softening of the brain" may result.

Thrombosis of the vessels which supply the heart muscle with nourishment, the coronary arteries, accounts for many cases of sudden death.

#### CLINICAL TESTS OF THE COAGULABILITY OF THE BLOOD

There is a group of so-called bleeding diseases which are characterized by various disturbances of the blood clotting mechanism. Sometimes the existence of these conditions is unsuspected until some minor operation, like the extraction of a tooth, is complicated by abnormal haemorrhage. At times the history may lead one to suspect a bleeding tendency in a patient; for example, unusual bleeding from a slight injury, ready bruising, or a swollen, painful joint, particularly a knee, due to some insignificant trauma, e.g., the haemarthrosis of haemophilia. There may be a history of haemorrhagic spots in the skin unrelated to any injury.

A family history of bleeders is significant.

Besides evidence obtained by inquiry, there are certain clinical tests which permit more direct light to be focused upon these peculiar disorders of the blood.

The tests which are employed routinely in the investigation of patients suspected of possessing haemorrhagic tendencies are as follows:

(1) *The Blood Platelet Count*: As we have seen, blood platelets play an important rôle in fibrin formation. If all the platelets could be removed from blood it would still clot, but very feebly. All the thrombokinase which could be formed then would come from the injured tissues. A diminution of the platelets can, therefore, be associated with defective clotting. The platelets may be counted in much the same manner as blood cells are counted. Normally, there are 200,000 to 400,000 platelets per cu. mm. of blood.

(2) *The Clotting or Coagulation Time*: This is a test of the time required for a sample of blood, withdrawn from a vein, to clot. To perform the test, a small amount of blood is obtained from a vein at the elbow and transferred to a small test-tube. The time is noted and the tube is tilted at intervals of one minute. If the blood flows along the side of the tube, coagulation has not occurred. When the tube can be inverted without the surface of the blood moving, clotting has been completed. The normal coagulation time by this method is five to ten minutes.

(3) *The Clot Retraction or Contraction Test*: Whenever a test of the clotting time is performed, a sample of the blood is placed in a second tube which is allowed to stand in a rack undisturbed and observations are made of the degree of contraction which has taken place in the clot in one hour and two hours. Normally, the clot contracts, leaving a slight margin of clear serum in one hour

and a definite amount of serum in two hours. Retraction will be complete in 24 hours when the clot will be found suspended in the serum.

(4) *The Bleeding Time:* This is a simple test to perform. After cleansing the lobe of the ear with alcohol, a small puncture wound is made. The time is noted and at half-minute intervals the blood which has exuded is blotted up with blotting paper. The decrease in the size of the drops is an index to the decrease in haemorrhage. The total duration of the haemorrhage is the bleeding time which, normally, is two to five minutes.

(5) *The Pro-thrombin Time:* Some blood is collected into a tube containing a solution of potassium oxalate which by precipitating the calcium prevents the blood from clotting. The cells are separated from the plasma by centrifuging. Small quantities of the plasma are transferred to small test-tubes and drops of calcium chloride solution added to each. The time that it takes for coagulation to occur after the addition of the calcium is the pro-thrombin time which is normally 10 minutes. In haemophilia the pro-thrombin time is prolonged because, as I shall mention presently, the platelets in this disease seem to possess an unusually tough envelope and fail to disintegrate and release thrombokinase.

(6) *The Calcium Time:* Place 1 c.c. of blood in each of two small test-tubes. To one add three drops of one per cent calcium chloride solution. Tilt the tubes at minute intervals to observe coagulation. If the blood in the tube containing the calcium coagulates in five to ten minutes and the blood without the calcium shows slower coagulation, this delay is said to be due to a deficiency of calcium.

(7) *The Capillary Resistance Test:* Place a tourniquet or the cuff of a blood pressure apparatus above the elbow and

produce a constriction about the arm for five minutes. Then release the pressure and have the patient elevate the arm above the head. Any small subcutaneous haemorrhages or petechae may be seen on the forearm or back of the hand. These capillary haemorrhages rarely occur in normal persons. The presence of subcutaneous haemorrhages, i.e., a positive capillary resistance test, indicates weakness or nutritional defect in the capillary walls. This is not diagnostic of any one haemorrhagic disease but it may occur in many conditions associated with a bleeding tendency.

It is possible, therefore, by means of these tests to determine the cause and nature of the haemorrhagic state in many instances.

In order to discuss the practical significance of the tests, it will be necessary for us to consider some of the so-called haemorrhagic diseases.

#### THE HAEMORRHAGIC DISEASES

In many different pathological conditions a haemorrhagic tendency may develop as a complication, e.g., in severe infections and septic states, jaundice, scurvy, anaemias and the leukaemias. But there is a group of diseases in which the haemorrhagic tendency is the principal feature. These are called the true haemorrhagic diseases.

*Haemophilia or Bleeder's Disease:* This is a congenital, hereditary tendency to bleed either spontaneously or as a result of slight trauma, which persists throughout life. The liability is limited to the male sex, occurs in families in which the males are bleeders but they do not transmit the trait directly. The women, although they are not bleeders themselves, do transmit the tendency to their sons. The tendency stops with the males. The women are called "conductors" of the disease.

Haemophilia is the most hereditary of



all hereditary diseases and repeats itself in generation after generation. Famous examples occurring in the Royal families of Europe are well known.

The characteristic feature of the blood in haemophilia is the prolongation of the coagulation time. Haemophilic blood will clot eventually and the clot will contract but the clotting process is markedly delayed. The bleeding time is normal, the platelet count is normal, but the calcium-time and the pro-thrombin time are prolonged.

The retardation of coagulation is believed to be due to an hereditary qualitative defect of the platelets described as an increased resistance of the platelets resulting in their slow disintegration and liberation of thrombokinase.

The treatment of haemophilia may be preventive or symptomatic. The existence of this disease in a family offers a very practical problem in eugenics. Haemophiles should be protected from injury. Surgical operations, even minor ones, should not be undertaken without due consideration and arrangements should be made for pre- and post-operative blood transfusions. Symptomatic treatment may be divided into (a) local treatment and (b) general measures of which the transfusion of whole blood is an important item.

Last November there appeared in the *Lancet* a rather encouraging paper reporting the successful use of a preparation made from egg white which was found to control the haemorrhage in haemophilia. Whether this will prove to be a valuable remedy remains to be determined.

For a time it was thought that a definite relationship between sex and haemophilia was established. Because the abnormality is not manifested by females, it was postulated that females must normally possess something which repressed the development of the disease in themselves. The one obvious difference be-

tween males and females is the character of the sex hormones. Some beneficial results were reported following the administration of ovarian extract to haemophiles but the results have not been very consistent and a great shadow of doubt now surrounds the hormone treatment of haemophilia.

There is a condition known as pseudo-haemophilia which affects males and females alike. It is probably related to some type of constitutional inferiority.

*The Purpuric Diseases:* A variety of pathological states are grouped together under the heading "purpura" or the "purpuric diseases." Many of these conditions bear little or no relation to one another. After all, purpura is but a symptom or a sign, not a disease. However, the various purpuric states have one characteristic in common, namely, the occurrence of spontaneous haemorrhages into the skin or mucous membranes.

#### THE CLASSIFICATION OF THE PURPURAS

##### I. The thrombocytopoenic group:

- (1) Primary or essential thrombocytopoenic purpura (purpura haemorrhagica, Werlhof's disease).
- (2) Secondary or symptomatic thrombocytopoenic purpura—
  - (a) The leukaemias.
  - (b) Agranulocytosis.
  - (c) Pernicious anaemia.
  - (d) Aplastic anaemia.
  - (e) Splenic anaemia.
  - (f) Effect of chemicals and drugs, e.g., benzol, arsenic compounds, quinine—frequently related to an individual susceptibility to the toxin action of such substances.
  - (g) Various infections at times, including sepsis and subacute bacterial endocarditis.

The thrombocytopoenia in most of these symptomatic pur-



puras is the result of interference with the production of the platelets within the bone marrow.

II. The non-thrombocytopoenic group:

This may include at times some of the conditions listed under I (2). But this group seems to be related to alterations in the walls of the capillary blood vessels, rather than to any defect of the blood itself.

Very often a diminution of the blood platelets is associated with decreased capillary resistance for the reason that the factors which exert a damaging influence upon the bone marrow also injure the walls of the capillaries.

*Thrombocytopoenic Purpura:* This is the most interesting of the purpuric conditions. It is a disease of unknown ætiology characterized by hæmorrhages, a reduced platelet count, a prolonged bleeding time and a non-retractile clot. The coagulation time is normal or only slightly prolonged. This is due to the fact that very few platelets are necessary for the actual coagulation of the blood. But the platelets must be present in normal numbers and be functionally active in order for proper retraction of the clot to occur. Contraction will be delayed if the platelet count is below 100,000. Contraction will be absent if the count is below 50,000. The soft jelly-like clot which forms becomes readily dislodged from a wound and so the oozing of the blood goes on indefinitely.

Probably the most satisfactory treatment for thrombocytopoenic purpura is splenectomy. Exactly why removal of the spleen causes a rise in the platelet count is not understood. Blood transfusions have to be resorted to frequently in this disease. During the acute phases astringents, adrenalin, etc., have to be applied to the bleeding surfaces but these are of little avail.

Recently, the use of snake venom (moccasin venom) in the treatment of hæmorrhagic conditions has been recommended. In a number of cases of thrombocytopoenic purpura favourable clinical results have been reported following the subcutaneous injection of this material. The beneficial effects seemed to be due to some action upon the capillary walls since there was improvement as regards the hæmorrhagic symptoms without a corresponding rise in the blood platelets or without a diminution of the bleeding time. In hæmophilia, a condition which is due primarily to a disturbance of the clotting mechanism, the treatment is not effectual.

In a purely empirical way, calcium salts are frequently administered in an attempt to improve the coagulability of the blood. This does appear to reduce the hæmorrhagic tendency at times and even to shorten the coagulation time. The manner in which this effect is brought about is obscure except in those cases in which prolongation of the calcium-time is the principal abnormality.

CONCLUSION

In conclusion, I may say that if hæmorrhage persists after the usual local measures have been applied, such as vessel ligation, coaptation of the surfaces, hot compresses, packing, etc., and there are no undetected open blood vessels, there is usually faulty clotting of the blood. The formation of a clot at a bleeding point does not necessarily mean that the blood has normal hæmostatic powers. The clot may be of poor quality. Only two out of three of the patients who have oozing of blood from a wound after ordinary hæmostasis will show any abnormality of the tests supposed to demonstrate faulty coagulation. The bleeding time, platelet count and other tests may be normal in a patient who bleeds persistently from a surgical

wound. Nevertheless some defect probably exists and goes undetected because of our limited knowledge of the physiology and pathology of blood coagulation, or because our present methods of clinical investigation are inadequate.

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## **The Highlights in Periodontia at the Annual Midwinter Meeting of the Chicago Dental Society**

by ANDREW J. McDONAGH, L.D.S., Toronto, Ontario.

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FROM a periodontist's standpoint, the midwinter meeting of the Chicago Dental Society contained a great deal of useful information. There is so much going on at a large meeting such as the above mentioned, that it is difficult for one to see everything he desires to see, even in his own line, and it is impossible to take in all the subjects, or see all the clinics provided. There are different meetings, with different lecturers, being held in different halls at the same time. For instance, the department of radiology was demonstrated on the twenty-fifth floor at the same time that a lecture was taking place on the second floor on one phase of pathology. All of those big meetings put me in mind of a three ringed circus, each ring having its own particular performance or show. If you are not experienced, and content to take in one show, you are apt to get a jumble of nothing. In order to provide for that unfortunate result, I tried to stick pretty closely to periodontology, and that kept me busy most of the time. There were

several different ideas displayed as to how to practise periodontia, three or four of which might be worth describing.

The first one which arrested my attention was a clinic by a young man who had a place in the large hall or ballroom, and who attracted quite a crowd. His method, briefly, was to make an incision through the soft tissues over the root, parallel to the long axis of the root on the labial or buccal side, extending from the gingival margin to a distance nearly to the apex of the root, and half an inch anterior to the pocket he desired to treat, and another one the same distance distal to the pocket. Then he tore the gum from between the teeth towards the buccal or labial side till he thoroughly loosened it all along both sides of the pocket, and he raised the periosteum from the bone right along, from incision to incision. Then he treated the exposed root and crest of the alveolus, pushed the gum and periosteum back into place, suturing it there if necessary, and of course got credit from his patient for

having performed a wonderful operation.

The next clinician operating did not think it necessary to take the trouble to preserve the inter-proximal gum tissue. In fact, he advised cutting it away and packing the denuded living tissue with a specially prepared packing cement of which he gave you the formula if you wanted it. I understand it was on sale some place, but that did not interest me.

Then I went to a symposium on periodontology. The first speaker was Dr. Geo. Maxwell, who, I believe, is in the North Western Dental College. His talk interested me very much, perhaps because his teaching has been my teaching for about thirty years. In his teachings he stresses torque and leverage, and analyses quite cleverly the forces applied to the teeth by torque during the course of mastication. He did not adopt the term which I coined, and which was published as early as 1922, "Traumatic Torque," but he described the principles of torque adequately. Strange too, Dr. Coolidge had a model splendidly made for teaching purposes, demonstrating the injurious effect of torque on the pericementum. He also showed some excellent pictures. After all these years it was gratifying to me to see torque being taught, torque which I believe is a great factor in producing periodontoclasia, and probably the greatest factor in the destruction of the foundations of fixed bridge-work.

The next in importance seemed to be a lecture by Dr. J. C. Warnock, and a clinic and demonstration on what was said to be "Electro-Coagulation in the Management of Pyorrhea." He created more interest than any of the lecturers in periodontia, perhaps because his method was well advertised, and a great many thought of it as "a new cure for pyorrhea." Dr. Warnock is an unusually vigorous exhorter and he spent a great deal of his time trying to enthuse his

hearers about the high standard that dentistry should take among professional people and other people of the world. He also described quite well what he called "the Webb method of coagulation." This method is very simple. The idea is to insert two electric poles into the pocket, or as we saw it there in some instances, the gingival crevice. The electric current which is used in this instrument, coagulates, or to express it as most of the men standing around me watching the operation said, "cooks the gum tissue" to the distance you insert the instrument in the pocket or gingival crevice. The gum tissue, after being cooked, sloughs away leaving the roots of the teeth and part of the alveolus exposed. That is the whole principle of the thing. After the tissue has sloughed away, the dentist must then, by his instruments, remove all foreign material, serumal calculus, tartar, diseased bone, or what not, as his judgment directs him, and hope for the gum to grow back again and cover up and attach to the living tissue. Dr. Warnock did not advise using a packing, or protecting the exposed tissue in any way, but he said if one desired to do so, he had no objections.

You might ask me what advantage this method has over the well known method of so-called surgical periodontia, which means taking a knife and cutting all soft tissue away to leave you a clear field of operation. Well, in some cases I'd say it has an advantage, in as much as you do not have so much bleeding, and the tissues around the wound are coagulated or cooked. Without a local anaesthetic it would be less painful, but much more painful than using trichloroacetic acid for the same purpose. The lecturer was very careful to say that this method was not designed for a periodontist, and was not intended for the specialist. I suppose he realized that a specialist, if he used the

coagulating method at all, would only use it in very special, select cases, and there would be very few machines sold or used, because the specialist tries to preserve the gum line as nearly normal as he can, and tries not to expose roots if he can help himself. But there are cases where even the most careful specialist will consider that he can get good results by excising the gums and treating the exposed tissues, in which case the coagulating machine would be the most rapid way of accomplishing that object. After listening to a description of this electro-coagulator, I must confess being quite disgusted with the claims made for it, and also with the operation I saw performed through its agencies.

It was refreshing to listen to a young lady dentist, Dr. Davis, who gave a demonstration at the north end of the hall. I was first attracted to her stand by hearing an enthusiast of the Charter's method of brushing teeth trying to confuse her, and exhibit his own superior knowledge, but he did not get far with her. Her demonstration showed how to treat periodontoclasia by instrumentation,

sensible medication and proper instruction, and she did not find it necessary to use fancy surgery, electro-coagulation or any of the other methods which carry away the uninitiated. Incidentally, she was a pupil of Dr. James, of Chicago, having been in one of his post-graduate classes.

I met a number of periodontists there, of course, and all who saw the electro-coagulating method had decided that they didn't need it, and the opinion was generally expressed that a man in general practice, or even a specialist in periodontia, could do a great deal of harm with such a machine, and was likely to be very much disappointed with the results, excepting in very exceptional cases.

With regard to the different methods of surgical periodontia, so-called, there was a difference of opinion among them. As far as I am concerned, I have very little use for either. I have given up, generally speaking, cutting away the soft tissues to enable me to see the field of operation. I have not found it necessary.

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*March 22, 1937.*

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## *Conventions*

NEW BRUNSWICK DENTAL SOCIETY, SAINT JOHN, JULY 5-6.

THIRTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB,  
SEPTEMBER 22-24.

AMERICAN DENTAL ASSOCIATION, ATLANTIC CITY, NEW JERSEY, JULY 12-16.

AMERICAN ACADEMY OF PERIODONTOLOGY, ATLANTIC CITY, JULY 8-10.

ASSOCIATION OF AMERICAN WOMEN DENTISTS, ATLANTIC CITY, JULY 12-16.

INTERNATIONAL DENTAL FEDERATION, STOCKHOLM, SWEDEN, JULY 9-14.

AMERICAN DENTAL SOCIETY OF EUROPE, PARIS, FRANCE, AUGUST 2-5.

AUSTRALIAN DENTAL CONGRESS, SYDNEY, AUGUST 16-20.

THIRTEENTH GREATER NEW YORK DENTAL MEETING, NEW YORK CITY,  
DECEMBER 6-10.



# Dental Health Service\*

by WALTER EMERSON BRIGGS, D.M.D., Attleboro, Mass.

THE subject material contained in this article was condensed and used as a radio talk before the Kiwanis Club of Toronto, Ont., in an attempt to make the community "Mouth Conscious" and to focus attention on the relationship between mouth neglect and systemic disease.

Emphasis is placed on preventive dentistry in its broadest sense as it applies to the many changes that occur at different ages. Preventive dentistry starts in pre-natal life and extends to adolescence, after that it becomes more control or repair dentistry.

The author is of the opinion that if these facts, known to the dentist, be developed in a series of models or charts, that by visual education, it is possible to carry on an educational program to your patients, in language they can understand. Colour adds to the reality of your models and is most convincing. At this point a strange thing happens to the creator of these models, in that he becomes converted to a newer consciousness of his responsibility from the standpoint of health and he sees a new dentistry. The immediate effect on the patient is to create a new respect, for the health angle involved in dentistry.

It is a far more dignified approach to your dentistry, because you have justified its necessity by discussing your problem in terms of health and not mechanics.

Preventive dentistry is only one phase of health work and should be started in pre-natal life, under the guidance of your family physician or pediatrician, so that when the child comes into your home, he may be healthy and physically fit. Our

bodies depend very much on what we eat, therefore the problem of nutrition plays an important part in the development of the child's foundation tissues.

The dentist does not see the child usually until after the first set of teeth have erupted, usually about 2½ years of age. The deciduous teeth are just as important as the second or permanent teeth, as they perform practically 20% of life's masticatory work. It is important that they be kept clean and in function during their normal stay in the mouth. It is interesting to note that a child at the age of 6 years has 20 deciduous teeth in place, with 32 more teeth packed away in the underlying tissues, in various stages of development, making a grand total of 52 teeth in all. The neglect of these temporary teeth may affect seriously the development and condition of these unerupted teeth later on.

Cavities in teeth are often referred to as dental disease. They develop mainly through little fissures and grooves in the teeth, and unless detected early in its appearance they will spread rapidly under the surface of the enamel and break down the tissues, even causing the death of the nerve or pulp and the formation of an abscess. It is astonishing to think that according to figures given us by histologists, these innocent little pits and fissures or developmental folds in the enamel of the teeth sometimes contain as many as 8,400,000,000 bacteria. The early filling of these grooves will usually stop any further destruction within the tooth substance. A conservative estimate shows that 82%

\*Read before the Kiwanis Club, Toronto, Ontario, November 18, 1936.

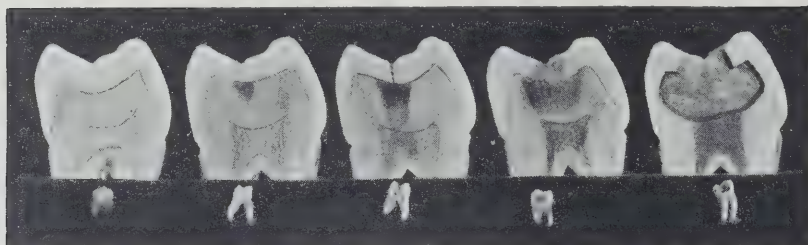


Figure 1

*Progressive Stages of Decay. Plaster casts showing anatomy of molar tooth as affected by decay. The lay mind can readily grasp this story by comparison with actual tooth shown immediately below each model.*

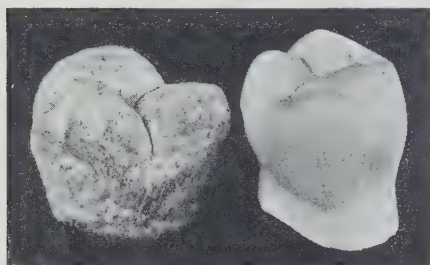


Figure 2

*Comparison of clover-leaf dinner biscuit with plaster molar tooth makes it easy for patient to understand what is meant by developmental folds in the enamel, pits and fissures. "More cavities occur on the biting surfaces of the bicuspid and molar teeth than on the other four sides combined," according to Hyatt.*



Figure 3

*Cavities or Human Incubators. Bacteria flourish under ideal conditions in the mouth. It is warm, moist, dark and has an abundant food supply in the ever flowing saliva.*

of school children have dental disease. (Figs. 1, 2.)

Cavities in the mouth are really human incubators, where the colonies of bacteria reproduce their numbers every 40 minutes. In a mouth that is rampant with cavities and abscessed teeth, the bacteria may gain access to the circulation of the blood or be swallowed into the stomach, and may be the cause of many systemic diseases such as affect the heart, kidneys, joints and muscles. So from the standpoint of child health, this is most important. (Fig. 3.)

It is estimated that approximately 80% of systemic disease enters through the mouth and nostrils, therefore if the mucous membranes in these areas are healthy, they will resist the invasion of bacteria and thus maintain better health for the child.

From the standpoint of health, think of a child whose mouth is filled with several abscesses and yawning cavities. Then let us realize that the mouth is really the first four inches of 28 feet of digestive tract, and that all food taken into the body enters through the mouth. Now let me ask you five questions:

1. Why do you have pure food laws?
2. Why do you pasteurize milk?
3. Why do you have the tuberculin test for cattle?

4. Why have refrigeration cars to transport foods?
5. And finally what becomes of all this clean wholesome food?

This food is contaminated by the bacteria in these neglected mouths just reeking with infection and much of the good done by government and health agencies is undone. If we are to have grade A milk let us also have grade A mouths.

In the United States during the World War, according to statistics by Provost Marshall Crowder, of the  $3\frac{1}{2}$  million men, representing the flowering youth of our country, 33  $\frac{1}{3}$ % were rejected, as physically unfit for service, largely because of systemic disease reflected by neglected dental disease. The point I wish to stress is this: If 82% of school children between 6 and 12 years of age have dental disease, will they be physically fit at 21?

The early loss of temporary teeth causes a drift of the remaining teeth from their normal positions, and this factor introduces malocclusion and injury to the survivors.

If an abscessed tooth cannot be treated, it should be extracted, but if a space maintainer is immediately inserted to hold that particular space open until such

time as the permanent tooth erupts, the development of the dental arch should proceed without any resultant deformity to the child. (Fig. 4.)

Malocclusion of the teeth means poor function, which results in poor digestion. But the damage does not stop there. The masticating of food throws extra work on the remaining teeth, and the bony supporting tissues soon absorb because of this over-work which is one cause for the development of that scourge known as "pyorrhea." It is variously estimated that 60 o 80% of our population have "pyorrhea," much of which starts in early life and is preventable. (Fig. 5.)

Such habits as thumb-sucking, mouth breathing and tongue pressure against anterior teeth very often produce a deformity, that causes the individual to develop an inferiority complex, and even resentment toward his or her parents. This condition is entirely preventable and unless the habit is broken early in life, it may lead to expensive orthodontic treatment to correct it. Protect that smile, for behind it is revealed the personality and ambitions of the owner. (Fig. 6.)

Dentistry for children is a real health service and should start at  $2\frac{1}{2}$  or 3 years of age. Its success depends on:

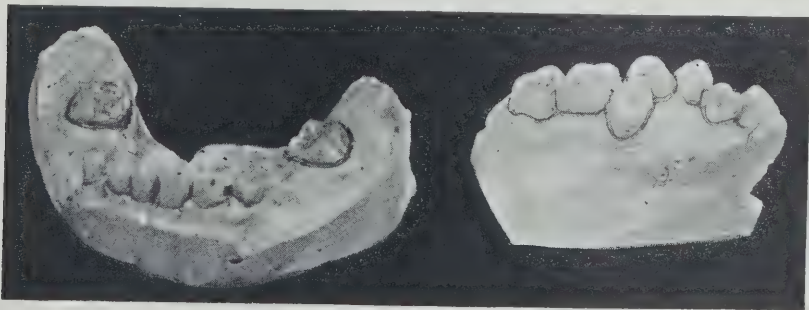


Figure 4

*Migration of permanent teeth through the premature loss of the deciduous teeth. Use of a space maintainer would have prevented this.*





Figure 5

*Pyorrhea is not limited to adult life. This oral condition if neglected may seriously affect systemic health.*

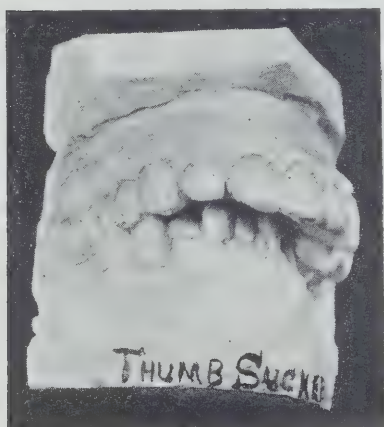


Figure 6

*Yearly study models enable the operator to detect eruption of teeth out of their normal position, from what ever cause. Correction instituted early, would prevent much facial disfigurement.*

1st. The early detection and filling of pits and fissures.

2nd. Systemic and periodic examination of the mouth every third or fourth month, particularly during the period from 6 to 12 years, when the child is shedding one set of teeth and erupting a second set.

3rd. Co-operation from the home is absolutely necessary to see that sug-

gestions from the dentist are carried out daily at home.

4th. Full recognition of the relationship of oral conditions to general health. This part is most important as it gives the dentist an opportunity to show that by preventing the development of dental disease in the mouth, he can greatly aid the child to maintain a healthier body which will grow up to maturity and be physically fit.

Our club in Attleboro, Massachusetts, aside from helping the blind people of our community, took up an extra activity to help also the undernourished indigent boys in our city. So we built with our own hands a group of buildings for a health camp. Since 1923 we have conducted this camp accommodating 40 boys for a period of six weeks each year. Before admission to camp every boy must have a complete dental service. We adopted the slogan, "A Healthy Mouth means a Healthy Body." These boys' mouths were in terrible condition; all cavities were filled and abscessed teeth removed. They were now ready for camp life, with supervised play, rest, diet and posture correction. At the close of camp individual gains from 4 to 21 pounds were attained. Only one boy since 1923 failed to gain his normal weight. Two years ago we ran out of boy material and had to change over the camp for undernourished girls. The problem of dental disease was the same, and with its correction the same good results were obtained. We are absolutely sold on the idea of what mouth health means to the growing children of our city. Our club is proud of the record it has made which indicates a real start in the right direction for the continued health of these children after leaving camp. (Fig. 7.)

I wish to extend my appreciation to one of your citizens of Toronto, Mr. H.



B. Taylor, who has contributed much to the realization of the health problem in dentistry, through his diagnostic charts, wherein the relationship of systemic disease to mouth neglect is clearly shown, and marks a new appreciation of what good dentistry can mean as a health measure.

The early years of life are the most rapid in growth and development, as revealed by a study of the height and weight charts. This may be interpreted as a period of building a foundation for health at maturity. It takes 20 years to build a man, which may be a third or a half of his existence. The greatest returns from any health endeavour, come from the intensive attention to the early periods of life. Any subsequent health effort must rely upon curative rather than preventive measures. As applied to dentistry it explains and emphasizes why dental attention is now focused on the youngest child rather than on restorative methods, to maintain an already crippled unhealthy mouth. Remember this: "It is far better to prevent disease in youth than to repair bodies, broken in health, later in life."



Figure 7

Before and After ( $8\frac{3}{4}$  lbs. gains)

*These pictures "Before" and "After" are 6 weeks apart. To view them properly, cover both with a piece of paper, then gradually slide it down over the picture and stop at the forehead, note the difference in the texture of the hair. Then in succeeding steps, stop at the eyes, nose, mouth, chin and chest and note the changes and developments that have occurred. "Before" denotes patient who has just had all infection in the teeth, jaws and tonsils removed. "After" shows the boy six weeks later; a definite improvement in health, with no inferiority complex.*

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### *Thirteenth Annual Fall Clinic of the Montreal Dental Club*

The Montreal Dental Club plans to hold its Annual Fall Clinic, September 22-24. Dr. Le Roy Hartman of Columbia University will be one of the clinicians and Canadian dentists are looking forward with keen interest to hearing Dr. Hartman explain his method of painless cavity preparation.

# Dental Caries\*

by H. E. BULYEA, D.D.S., Edmonton, Alberta.

I HAVE come before you this evening with a subject that is not new. In fact I have nothing to give you that you have not heard before, and it might seem therefore that little can be gained by such a discussion under these circumstances. There is however no theme in dentistry wherein there has been, in recent years, a greater divergence of opinion among members of our profession. Especially does this apply to research workers and those writing for dental magazines.

It is only reasonable to assume that where there is such a variance in ideas they cannot all be right, and it is for the purpose of attempting to sift the wheat from the chaff that I would crave your indulgence this evening, for a short time.

This uncertainty is not new. There apparently have always been many different opinions concerning the causes of dental caries. Before the time of Miller there were many theories advanced. Some of them in the light of our present day knowledge seem extremely ridiculous. Some, however, proved to be very good guesses, and a few look as if they had been the result of sound reasoning. When they speak of the breaking down of the enamel due to inflammation, putrefaction, chemical action, worms and germs, we may smile at the thought of their simplicity, but we must not forget that they lived at a time when science was in its infancy—if indeed it had yet been born—and these things that now seem to bear only a shadow of truth, must have been thought to be, and probably really were, as great advances over

previous conceptions, as present day knowledge of this subject is over those simple statements of that bygone age. So we must not look with disdain upon these early conceptions, for they were really the stepping stones to whatever greater elevation we have now attained. Just now we may think we have a right to smile; but there may be loud laughter over the legacies left by us.

In all ages there have been men of honest intentions, however misguided some might have been. The same condition obtains now, and whilst much that has been said and done may not stand the test of time, I believe there never was a period since our history began, when men were so eager to get at the truth of this perplexing problem as they are to-day. Many of them have contributed material that we may venture to predict will be of lasting value, and if in the course of this discussion I shall seem at times somewhat critical of some of their results, please bear in mind that it is with no desire to question their sincerity.

Ever since Miller propounded his bacterio-chemical theory of dental caries there has been a very general belief that some sort of microorganism is the chief causative factor. There have been others and there still are, those who insist that there are other causes of equal importance, and some who think that in these other causes may be found what is alone responsible.

This last class a few years ago seemed to be very much to the fore, and for a time almost threatened to monopolize the field. Some said for instance that bac-

\*Presented to the Calgary Dental Society, January 11.

teria had nothing whatever to do with the process, and that since every other part of the body seemed to have its mechanism of defence and that the extent of the resistance to pathological invasion was dependent upon the efficiency of this mechanism, therefore it must follow that the tooth, being a part of the body, must be endowed with a similar means within itself for its protection.

In their attempts to prove their contentions they discovered certain microscopic canals which occasionally occurred running through the enamel and which seemed to be continuations of the fibrils of the dentine. This together with the fact that all enamel in its natural state contains a certain amount of moisture led them to believe that these and other theoretical and imaginary channels functioned by carrying to the enamel a fluid, containing building, rebuilding and protective agents. The nature of the diet, in their estimation, was only of importance to the welfare of the tooth, in so far as nutrition was supplied by this means either in the form of vitamins and calcium and other salts, or as some sort of "Will o' the Wisp" which they described as protective bodies.

Like many other theories this was hard to prove, but some took the unreasonable attitude that because it could not be disproved it must therefore be accepted as true. Opponents of this theory demanded that this hypothesis should not rest on such an uncertain foundation and that the onus of proof should be upon its advocates. This would seem only reasonable, and to date we have very little more to substantiate these claims than what has just been stated.

I would not deny however that there seems to be some sort of protective influence associated with the teeth, but just how this works is not entirely clear. Pickerell found (1) that the enamel of teeth of immune individuals was of a

higher specific gravity than those of susceptible people; (2) that immune teeth in susceptible mouths were more dense than those that had been attacked; (3) that teeth become gradually harder after they erupt; (4) that the nature of the saliva in many cases seemed to have an influence toward immunity or susceptibility and that this nature of the saliva was influenced by different kinds of food. It would seem then that teeth do show different degrees of resistance and that at least some of the conditions tending toward their immunity are known and that this knowledge may be of value in determining the cause of caries and the management of its control.

Let us return to the bacterio-chemical theory. This has been modified somewhat since it was first advanced, but in the minds of many good thinkers it still seems like the foundation for the most rational belief on this subject which exists at the present time. That is not saying that what we know along this line gives us the full explanation of the cause of caries; but there are certain facts in connection with it that seem well established, in spite of the numerous attacks on this particular theory, by opponents.

We might cite a few of these arguments. It has been said that because some mouths, apparently free of caries, are ill there is no such thing as the direct action of the products of fermenting food attacking and destroying the enamel. They fail however to take into account that not all foods are fermentable, and that many of these deposits, where fermentation does take place, are often permeable by the saliva, which washes away the acid in such cases as soon as it is formed or before it has had time to do any damage, and that the nature of the saliva may be such that it is very potent as a cleansing medium.

Quite conclusive proof of the local effect of fermenting carbohydrates may

be found in the fact that decay always takes place where food has the best chance of accumulating, i.e., between the teeth, in pits and fissures and near the gums. Inversely there is further proof in the fact that surfaces, points of cusps and ridges which are habitually kept clean *do not* decay.

That would all seem like reasonable proof; but not so to some who argue that the susceptible surfaces have less resistance due to decay having taken place in these locations for so long that it has at last become hereditary. To the unthinking or the inexperienced that might sound like a reasonable theory. But I need only remind you that you have all seen evidence to the contrary in the fact that surfaces which have had no chance to establish such an hereditary weakness, such as angles of the teeth, when these come in contact with neighbouring teeth in such a way as to retain food, show the same tendency to break down. We have all seen overlapping laterals decaying on their angles, whilst the usual locations of decay on their proximal surfaces due to their now self cleansing conditions, were free of caries. Recently I removed a band which a student had placed on a perfectly good bicuspid, and which had been loose for some time, and the tooth had a wide area of whitened enamel corresponding with the location of the band. A patient wearing a lingual vulcanite retainer resting on the lingual surfaces of the upper incisors, by wearing it too continuously and without proper cleansing, had large cavities develop in a few months, on the linguo-gingival ridges of these teeth, which previously had been free of structural defects and entirely self cleansing.

These are but a few examples of numerous cases which have come under my observation. Such experiences seem to prove that the local effect is a very potent one, and someone will need to produce

much more convincing arguments than have been advanced to date before we shall feel warranted in throwing it overboard. The *modus operandi* of caries as propounded by Black and concurred in by many eminent men of his day, may seem old-fashioned in this day of hurry and change, but it must stand as our best guide until it is deposed by something more capable of proof.

What about the vitamins? Here it seems to be a case of "now we have it and now we haven't". We no longer think that the whole question is settled by this means because someone comes along and knocks it down like a deck of cards. Recently there appeared an article in the *International Journal of Orthodontia*, by a prominent children's specialist of New York City, who after much study, observation and dietary experimentation among institutional children, came to the conclusion that deficiencies of the vitamins A, B, C and D had nothing to do with the incidence of caries. His observations led him to believe that it depended upon the amount of acid-forming foods in the dietary. Other research workers have come to the same conclusion and that the base-forming foods such as ample amounts of milk, raw vegetables, fruit, etc., are really the agents most capable of supplying the protective influences.

Out of all the conflicting theories and notions concerning dental caries, there seem to remain certain conclusions that we may fairly well depend on:

1. That certain carbohydrate foods (but not all) lodge upon the teeth in locations where they remain, and due to bacterial action ferment, producing an acid, which under the protection of gelatinous plaques, disintegrates the enamel. The enamel rods fall out leaving a pit into which more fermentable material may lodge and the process is accelerated.



2. That the nature of the saliva is altered by the intake of excessive amounts of carbohydrate foods and this interferes with its efficiency as a cleansing medium of the teeth.
3. That any surfaces of the teeth where food collects may break down, and this seems to prove that local conditions are very largely responsible for these lesions.
4. That an inadequate diet, lacking in proper building materials, is likely to cause the formation of teeth of low resistance to caries.
5. That other factors seem to act as predisposing causes, such as poor health—especially during childhood, lack of exercise and poor mouth hygiene.
6. That dental caries is not so much the result of civilization per se, as the particular nature of the dietary of such peoples where it occurs.
7. That there are races both civilized and primitive, living more simple lives and nearer to natural laws, who are immune or nearly immune to dental caries.
8. That the children of these immune races who mingle with and adopt the dietary habits of susceptible races show the same tendencies to develop cavities as these susceptible people.
9. That susceptible people by adopting the dietary of the immune races, establish a high degree of resistance.
10. That the greatest advance toward the prevention of caries up to the present, has been made through careful attention to the dietary, since many men of seemingly unquestioned reliability have claimed that they have secured excellent results by this means.
11. That certain foods have a marked direct cleansing action on the teeth.

These are the facts as I see them. Whether they are facts or not, time, the great evaluator, alone, may tell; but some of these things seem to have been so convincingly established through repeated investigations that it hardly seems possible to doubt their accuracy. In any case, let us cherish the hope that the efforts of those who have so sincerely endeavoured to solve these very perplexing problems, and those now being put forth, may be crowned with success.

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*The nation that first learns to feed its children properly, to prevent the development of disease, to ensure a clean and healthy mouth, and to cultivate the bones, sinews, and muscles, will find that mental education follows more easily in the train of all these, and will lead the world. Is anyone prepared to say that as a nation we cannot afford to be healthy, or that some must be diseased in order that others may live in luxury?—Sir Norman Bennett, M.B., B.Ch. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., L.D.S.Eng.*

# Romance of the Glass Denture Base

by CHARLES McLEAN, D.D.S., Toronto, Ontario.

IDEAS are elusive. If he does not think to take a pencil and jot them down as they thread in and out through a man's mind, the fleeting thought that may have been the answer to some question that was puzzling him is lost in the maze of others which rush across the mental screen. Thoughts come and go until, if, by concentration on a particular problem, the ground has been prepared beforehand, the sudden flooding in of an idea makes an unforgettable impact on the mind. Then man has his answer!

Nine years ago Dr. Frank Lott, Professor of Prosthetic Dentistry, Faculty of Dentistry, University of Toronto, was on the operating table of a local hospital. He was inhaling the anaesthetic. His muscles were becoming heavy—but his mind was incredibly alert. "Glass! Why couldn't it be made of glass?" . . . and so into darkness.

Glass! This idea, though no pencil was at hand to jot it down, was not lost—and a convalescent bed is an excellent place to think.

For some time Dr. Lott had pondered the problem of using some material for denture bases that did not have the disadvantages of rubber. Ever since Good-year had introduced the hardening of rubber by vulcanization, dentistry had made extensive use of this process for making bases to support artificial teeth. The colour, however, was not good. Moreover, the vulcanite soon became porous and absorbed food debris, so that, after being used for some time, it was not always clean. Efforts that other men were making with cellulose materials, the resins, and the phenols, had not yet embodied all the requirements for an

ideal denture base for artificial teeth. Dr. Lott had studied the physical properties of all the base materials that were in use at that time. His was the enquiring mind of a research man, and he was constantly striving to determine how dentures could be improved. Was there any different material which could be used that would give comfort and utility to the hundreds of thousands of denture users? This was the question that was carried in his mind.

All this was in 1927.

Glass! Anyone could see that it was hard. It was non-porous. It could be moulded into many forms. It could be almost any colour. It might even be made shatter-proof. But, how could all this be made into dentures?

Then started a long process of acquainting himself with the methods of processing glass. The Reference Library was in the same block as the School of Dentistry, and its shelves held many books and articles on glass. Encyclopedia contained valuable material for the novice. At first the search for information was laborious, but as his knowledge increased, the fascination of the study and the possibilities of this new material for a denture base spurred him on.

The first practical problem was to press molten glass into the form of a denture base. Obviously, today, the use of an electric furnace was the easiest method for melting the glass; but the big question was how pressure was to be applied while the glass was softening to force it into all portions of the mould space. As Dr. Lott and his associates endeavoured to surmount this difficulty, other problems arose. The flasks used to hold the mould material oxidized under

the heat necessary to soften the glass. Flask after flask was made before one was constructed which would give a reasonable service. The porcelain teeth cracked during the processing of the glass. This produced a series of questions: Should the pressure be gradual or sudden? Was the co-efficient of expansion for glass and the porcelain teeth different under the same heat? Would the teeth have to be changed? It was also found that the pins in the teeth caused bubbles; consequently it was decided that pinless teeth should be used. Furthermore, when softening the glass the mould would shrink and crack under the heat required; so Dr. Lott settled down to the problem of a mould.

Industrial moulds, in which any number of like articles can be made, were both impractical and expensive for dental purposes, as each denture case required its own mould. Dentists are accustomed to making individual moulds from plaster, and so Dr. Lott quite naturally used this method. His knowledge of refractory materials helped in the search for some substance that would not change from under high heat and, possibly, pressure. After many trials and rejections, a formula was evolved that was almost inert, and could withstand heat without cracking and gassing.

The next problem concerned the kind of glass which should be used. At first the glass company to whom Dr. Lott went for help did not give him much encouragement. They were busy with their own problems of glass processing, and perhaps they felt that research in the dental field would not warrant expenditures of money on their part. They did, however, give him some glass to use for his own experiments, together with valuable advice and information — the softening points of the glass, and other pertinent data. Under these conditions Dr. Lott began his own experiments.

Batch after batch of glass was used, until, at long last, a denture was made with not one check in a porcelain tooth!

By this time the glass company became interested. Here was a keen, conscientious research man in the University of Toronto who was making progress in the face of tremendous odds. His diary showed that he knew how to plod ahead in the field of research. Accordingly, his early labours were rewarded when they started to help him with some of the technical problems in the handling of glass. This co-operation relieved Dr. Lott of a good deal of work, and left him free to devote his time to perfecting the nuisances of burning-out furnaces, the buckling flasks, and the building of slow pressure blocks, together with the many little technical problems that were unforeseen, but had to be solved.

Colour in artificial denture bases has always been a handicap to the dental profession. In the phenols we had a close simulation to gum tissue colour, but they were apt to vary and to change. It was here that the glass company was able to make a valuable contribution. Their long experience with coloured glass enabled them to produce a stable colour which closely resembled the shade of mouth tissues. It was found, also, that in case of repair there was no line of union discernible. This was a decided improvement over previous base materials.

It must not be thought that Dr. Lott accomplished all this work alone. He was wise enough to take advantage of the constructive criticism which other good minds could offer. He approached Dr. A. D. A. Mason, at that time Professor of Clinical Operative Dentistry at the Faculty of Dentistry, University of Toronto, who was always ready to give to Dr. Lott the benefit of his extensive professional experience.

Another principal who assisted in al-

most every phase of the investigations was Dr. Irvin Ante. He helped to improve the mould material, he processed many cases, and when the time came to place dentures in the mouths of patients Dr. Ante continued his investigations and his co-operation. Throughout the whole study and research, the work of these three men has been closely interwoven, and the practical assistance which Dr. Mason and Dr. Ante gave to Dr. Lott has been invaluable.

Many persons will question the use of glass and will ask: "Will it break?" Yes, it can break; but the type of glass used for the base does not appear to break into sharp jagged edges that will give a nasty cut, but, rather, on fracturing, it seems to have almost rounded edges. It has not been possible, as yet, to make the glass unbreakable; but in

practical use in the mouth for over two years there has not been the least suggestion of a breakage under normal mouth conditions. Furthermore, the denture will not become distorted and change shape; it can be easily cleaned; and the natural smoothness of glass is extremely kind to the tissues of the mouth.

Dr. Lott and his associates are bending every effort, at the present time, to simplify the construction process so that it may be easily utilized by the members of the dental profession. There are also certain commercial obstacles to be overcome before the process and material can be made readily available; but, the idea of glass for a denture base is about to become a reality.

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*1503 Sterling Tower.*

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## *Courage*

*"It didn't take much courage to live in the world I grew up in; it will take plenty of courage to live in the next fifty years. Courage that can face superior force without flinching and with zest; courage that can 'take it' and come back; courage that is not injured by injury nor defeated by defeat. That kind of courage doesn't come by whistling when one needs it; it comes by resolution fixed and reinforced, and by a steady discipline which must grow from within."—Ernest Hatch Wilkins in the Christian Century (Chicago).*



# National Health Insurance in Great Britain and the British Dental Association's Capitation Scheme\*

by R. G. HEEGAARD WARNER, L.D.S.Eng.

(Reprinted from the *British Dental Journal*, Oct. 15, 1936)

NATIONAL Health Insurance was instituted by Act of Parliament in this country in 1911 and became operative in July of the following year.

The Act provides for the compulsory insurance of most wage-earners, the exceptions being those non-manual workers whose wages are more than £250 a year, and persons with an unearned income of £26, who may obtain exemption. The scheme is financed by contributions from the employer, the employee and the State.

Certain persons may become voluntary contributors. These pay the whole of the necessary contributions themselves. The principal persons in this voluntary class are those who have paid at least 104 contributions as compulsory insured persons, but whose incomes have then reached over £250 a year.

The statutory benefits provided by National Health Insurance are cash payments during illness, cash payment on the birth of a child to an insured person, medical attendance and medicine during illness. Voluntary contributors pay less but receive no medical benefit.

The Act provides that the cash benefits should be administered by the persons brought within the scheme by banding themselves together into self-governing societies. These societies must be approved by the necessary authority and are known as Approved Societies.

Provision has also been made for the disposal of any surplus funds which an Approved Society may acquire, either by reason of a low sickness rate among its members or by economical finance. This has to be spent on Additional Benefits. The most important of these is dental benefit. The amount and importance of this additional benefit have necessitated the setting up of special administrative machinery.

The Dental Benefit Council is a body set up under statutory authority. It makes arrangements for securing a satisfactory dental service to those members of Approved Societies who are entitled to it, and exercises supervision over the administration of the benefit, subject to the general responsibility of the Minister of Health and the Department of Health for Scotland. It consists of a chairman who is appointed by the Ministry, twelve dentists, twelve Approved Society representatives and four members representing the Ministry of Health and the Departments of Health for Wales and Scotland. Also not more than six additional members may be appointed having special knowledge, but the Approved Society interest and the dental interest must be equally balanced.

The Regional Dental Officers Service has also been set up. This body consists of a Principal Dental Officer and whole- or part-time dental officers. The service

\*A paper read at the Empire Dental Meeting held at the Central Hall, Westminster, London, S.W.1, on July 29, 1936.

is available for advising the Approved Societies, dentists practising under the scheme and the Dental Benefit Council on questions arising from the estimates furnished and treatment given by dentists; and also for advising the Minister and the Dental Benefit Council on matters arising from the administration of dental benefit.

In order to codify the scheme the Dental Benefit Council has drawn up rules which, having gone through the necessary formalities, have become Statutory Regulations and Orders, and as such are enforceable upon those whom they affect. The regulations lay down rules for the settling of disputes between dentists and Approved Societies by referees, and further by Appeals Committees, before which aggrieved parties have the right to state their cases. There is also laid down the terms on which a dentist may be expelled from the Service.

A scale of fees has been drawn up, as well as conditions under which service must be given. The scheme is limited to what has come to be called dentistry of necessity.

From time to time the regulations are amended, notably after the quinquennial valuations of the Approved Societies, when the available surpluses become known. The adjustment and alteration of the scale of fees cause a periodic upheaval in the dental world. The standardization of fees on the one hand and the varying degrees of the skill of dental practitioners on the other, together with a sprinkling of astute commercialism on the part of certain Approved Society officials, make a problem, the solution of which is a task very nearly nauseating to some who have taken part in attempting it.

The system has now been operating for nearly sixteen years, and it is possible to form an estimate of its working. It can be said with truth that it has served

the useful purpose of bringing within the reach of a large number of working-class persons a reasonably efficient dental service. In achieving this it has meant that the highly skilled dental practitioner with a trained staff and up-to-date equipment has been inadequately paid, while the man in the slum practice has been receiving fees in many cases beyond the value of his services.

The standardization of fees and the standardization of treatment cannot but be looked upon with some anxiety by all those who have the welfare of the dental profession at heart—which welfare is identical with that of the public. The problem which we must solve is that of giving an efficient health service to the whole population, but with sufficient elasticity in it so that dental progress is in no way hindered.

Private practice has always been rightly regarded as the backbone of all the great professions. If the backbone be fractured, death sooner or later ensues. Dislocate it and progress is retarded. The present system of Additional Dental Benefit has, as year succeeds year, done very serious damage to many private practices. The fact that one member of a family requires treatment under the scheme sooner or later standardizes at National Health Insurance level the whole family's class of treatment and fees; whilst refusal to treat one member of a family on such terms possibly means the loss of all to the practice. Teachers in our dental schools feel the absurdity of instructing students in highly technical dentistry knowing that, when the men are qualified and in practice, they will never have the opportunity of using their knowledge.

In the paper, which I thought would be in your hands, but I understand is not, I have indicated the disadvantages of the present system of Dental Additional Benefits exclusively from the den-

tal point of view, but it must not be lost sight of that it is also working very unfairly against the insured person. All insured persons must pay equally but they do not receive equal benefits, for some Societies have never given any dental benefits, others have given them only from time to time, and others again have given them continuously. Furthermore, the poorest cannot always find the necessary 50 per cent. of the cost, and therefore not only are they called upon to give a larger proportion of their incomes in payment of what may be termed the tax premium but also they are actually assisting their better-off fellows to obtain the benefit from which they themselves are debarred.

What is the answer to be given to all these problems? The Insurance Acts Committee of the Association has given much thought to finding it. The committee is of the opinion that it has found the answer in its Revised Report on the Provision of Dental Treatment as a Statutory Benefit. The report formulates a scheme in which, for an annual payment, a dentist will contract to supply all the treatment and prosthetic work, which falls within the definition of "general dental treatment" and which he may be called upon to do for all those persons who are registered with him or are, as it is termed, on his panel. The service is to be given in suitably equipped premises under private practice conditions, and for each one of such persons he is paid a capitation fee.

To all those who are genuinely interested in the dental health of the working classes, I recommend a careful perusal of the report. At the same time it must be realized that it is but the framework of a system which we believe to be the most practical for adoption.

The persons included in the scheme would be all insured persons, except those voluntary contributors whose in-

comes exceeded £250 a year. The "general dental service" would include scaling, gum treatment, plastic fillings, root treatment, extractions with local or general anaesthesia and necessary dentures, together with their reasonable maintenance. In order to determine what a "necessary" denture may be, the report gives a formula; but it is recognized that a reasonable degree of elasticity must be allowed for appearance and other special conditions. Gold filling, porcelain and gold inlays, radiographs, electrotherapeutic treatment, gold and metal dentures, crowns, bridges, obturators, splints and orthodontic apparatus, and treatment of oral complications arising from general medical or surgical treatment would not be included in the service.

A dentist would be expected to maintain, so far as lay within his power, the teeth of the persons registered on his panel, in a healthy condition, for which service he would be paid quarterly a fee for each of his registered patients, irrespective of whether he had attended them or not.

Some years ago, when the Insurance Acts Committee first began its work on evolving a scheme for the provision of dental treatment as a Statutory Benefit, many obstacles appeared insurmountable. The two most difficult ones with which it was confronted were the fixing of an approximate capitation fee and the feasibility of including the "unfit" directly on panels. In order to arrive at the approximate figure of the capitation fee, lying between 12*s.* 6*d.* and 16*s.*, a mass of figures from many quarters was analyzed. Before this was done we had been told by some that 7*s.* 6*d.* and by others as much as 26*s.*, with all grades in between these limits, was the right fee. When the time comes, I am certain that with the added experience gained since we made our calculations it will be

actuarially possible to fix a just fee.

Regarding the taking of the unfit directly on the panels, it may be known to many of you that in my committee's original draft report it was advocated that these should be rendered fit before acceptance. Maturer consideration, however, based on the helpful criticism and facts received as a result of the publication of the draft report, caused my committee to lose its original fear that it would be inflicting an insupportable burden on the dental profession. Moreover the whole scheme would fail by falling between the two stools of a scale of fees and a capitation fee. The dental profession need have no fears that admittance of the unfit directly on to the panels will cause any embarrassment.

The scheme will be administered on similar lines to the present Medical Benefit, by Local Insurance Committees, Service Sub-committees and Local Panel Committees.

It is interesting to note that the chief criticism of lay observers has been that of high cost, whilst the principal one of the dental profession is that the dentist will be over-worked and under-paid. If these

truly cancel each other, then it may be said that the scheme is sound.

There can be no doubt whatever in the mind of any observant well-wisher of this country that the dental needs of the working-class are very great. An easily understandable scheme which will make available to insured persons the services of the family dentist is overdue. When once such a service has become firmly established, it cannot fail to be the means of preventing much ill-health and suffering, and be an aid to the greater prosperity and general well-being of the nation.

*In the discussion of this paper, it was pointed out that the fee would ultimately govern the standard of service and that under the present plan the dentist was really selling fixtures and extractions and that there was a desire to buy them in the cheapest shop. Another speaker felt that the Approved Societies should be eliminated from the scheme and that it should be run directly by the Government. Others felt that eventually some form of compulsion would have to be adopted in order to force the people to receive the necessary treatment.—Editor.*

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*"Temporary molars when carious may, as we all know, be treated with silver nitrate, and the child's mouth thus be made at least temporarily free of active decay in a quarter of an hour. Similarly, the six-year molars may be treated with silver nitrate and filled with permanent gutta percha which lasts for years and can easily be added to, if other fissures become carious. This type of treatment is not only much quicker, enabling the dentist to see far more children, but it is more successful in saving teeth and safeguarding the child's health."—E. Wilfred Fish, M.D. Manc., D.D.Sc. Melb., D.Sc. London.*



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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM ALBERTA:

What is the popular method of devitalization, arsenic or novocaine?—*Sperry D. Fraser, Cadomin.*

## REPLY FROM NOVA SCOTIA :

It is my routine practice to use novocaine in infiltration, or pressure anaesthesia in preference to arsenic for the devitalization of teeth where such operative procedure seems justified.

My objections to the use of arsenic are as follows:

- (1) It is an irritant.
- (2) It does not act on inflamed tissue.
- (3) There is the possibility of destroying periodontal and periapical tissue.
- (4) There is greater discolouration of the tooth crown.
- (5) There is danger of leakage into the oral cavity.
- (6) Its use consumes too much time.

It has been claimed by Dr. Franz Heinze in 1924 that arsenic had been found in the periodontal tissues after it had been sealed in the tooth for twelve days. Unfortunately his research was from the chemical standpoint only, and no proof was adduced, nor in fact any investigation made, to show whether the tissues were damaged or not.

Having had two extremely distressing experiences with pressure anaesthesia, employing cocaine, where the patients presented an idiosyncrasy for the drug,

I have discontinued its use and depend on novocaine entirely.

In infected pulps where pressure anaesthesia cannot be used, infiltration, block, or inter-osseous injections provide a choice.—*A. W. Faulkner, Halifax.*

## REPLY FROM QUEBEC :

In my opinion novocaine is the best and most popular method for pulp extirpation.—*Ernest Charron, Montreal.*

## REPLY FROM QUEBEC :

Asking for the popular method of devitalization method would mean, I presume, the one most commonly used by the profession at large. I do not feel prepared to answer this but would give my answer as the "popular with me" method.

Novocaine anaesthesia, either infiltration or block, is always used, infiltration for all the upper teeth and also the lower four incisors; block for the lower bicuspid and cuspid, and often in the case of the lower cuspid block is supplemented with infiltration. No attempt at devitalization is made in my practice on any molar teeth. If this is desired by the patient, I let them seek "the other fellow" to do it.

I can recall one case in recent months where after two attempts it was impossible to remove the pulp in an upper central incisor in a boy 14 years of age,

painlessly, under novocaine anaesthesia. A small amount of arsenic fibre was sealed in for 24 hours; devitalization was not complete but the novocaine was successful at the third attempt. This is the only case where I have used arsenic fibre in possibly ten or twelve years and it came from the same bottle purchased at the time of my setting up practice.

The above method is for permanent teeth only. If devitalization of deciduous teeth is called for, the following method is recommended. A paste with the following formula is used:

|                        |         |
|------------------------|---------|
| Zinc Oxide.....        | 2 parts |
| Paraformaldehyde ..... | 1 part  |
| Thymol .....           | 1 part  |

This is mixed to a stiff paste with glycerine, and powdered asbestos is added to give it more body. This paste is applied directly to the exposure and sealed in with cement for 24 hours. It invariably devitalizes painlessly in this time and has a mummifying action on the pulp.—*Edward T. Bourke, Montreal.*

#### REPLY FROM QUEBEC :

In discussing the popular method of devitalization, I am reminded that for many years previous to the general acceptance of a satisfactory technique for the administration of novocaine-adrenalin by the "block" method—arsenic tri-oxid (arsenous acid), which comes to us in the form of a white powder, as well as cocaine, applied under pressure directly to the exposed nerve (pressure anaesthesia) were used almost exclusively when contemplating devitalization. Owing to the toxic effects of cocaine it was later replaced by novocaine (a safer although slightly less effective anaesthetic). "Block" anaesthesia has, of late, become increasingly popular particularly among the younger graduates. However, it appears to me that each method of devitalization should be carefully con-

sidered for every case as it is presented. No one method is applicable to all cases. They all have their good as well as their objectionable features and the choice of any one of them ought to depend, very definitely, on circumstances and on the condition of the pulp requiring such radical treatment.

An arsenical application made to an already aching or irritated pulp invariably increases that irritation to a point when the pain becomes almost unbearable, while, on the other hand, novocaine applied under pressure to any but recently exposed pulps where there is slight chance of infection is a very questionable procedure. An infection beyond the apex of the tooth is almost certain to follow should this method be used and any portion of that particular pulp be putrescent.

"Block" anaesthesia appears to be the logical procedure in a large percentage of such cases although arsenic is very effective as well. However, one must be reasonably certain that complete anaesthesia can be obtained in the removal of a pulp. That, unfortunately, does not always follow "block" anaesthesia in many of these cases, strange as it may seem, even though satisfactory results are obtained, should the tooth in question be due for extraction instead of devitalization. Under favourable circumstances, a combination of "pressure" and "block" anaesthesia, using novocaine-adrenalin, gives good results. By using this combination one obtains complete anaesthesia with the added advantage of preventing the excessive haemorrhage which we so often encounter when the "block" method is used alone.

It appears to me that although there are certain decided objections to the use of arsenic for devitalization, viz.: an occasional pericementitis when the treatment is allowed to remain in the tooth too long and the danger of an arsenical

burn when one is careless about confining it to the cavity and the delay in contrast to the despatch afforded by novocaine-adrenalin, yet, with it all, I feel that arsenic still has its place, and an important one, in dentistry. Arsenic is best applied in the form of a prepared jute fibre soaked in a solution containing morphia, etc. Just previous to its being placed over the exposure or in proximity to the pulp, if no exposure be found, it should be moistened with a little eugenol which assists the treatment to penetrate to the desired spot much better than when the fibre is used without this aid. Naturally the treatment requires to be sealed into the tooth with great care to prevent possible leakage.

Used by the older operators for many years, arsenic continues to be employed by them in cases where their judgment and previous experience have taught them that it is indicated in preference to other devitalizing agents while, on the other hand, the more recent graduates incline to the novocaine-adrenalin "block" technique to obtain quick results. A very fair proportion of all practitioners use novocaine by the pressure method in selected cases. Each method is capable of giving satisfactory results when applied with discretion and combined with common sense. — *G. Guelph Armitage, Montreal.*

#### REPLY FROM ONTARIO :

I thought that arsenic as an agent for the devitalization of the pulp of a tooth had been relegated to the scrap heap many years ago. Undoubtedly there have been many teeth saved through its use for years of apparent service. We might also ask the question "How many of the teeth have been a menace to the health of the patient through the development of areas of apical infection due to the absorption of the arsenous acid by the

periodontal membrane or faulty root canal therapy from the necessity of so many treatments?"

There is also the factor of pain which is frequently attended by the use of arsenic and also in many cases only the partial devitalization of the pulp.

By the use of infiltration or block anaesthesia the pulp can be extirpated at one sitting and, if the field of operation has been kept sterile, an immediate root filling inserted, particularly so if the different stages of the operation can be kept checked by X-rays.

Under any circumstance there is a great saving of time to both the patient and the dentist with the assurance that a better operation has been performed.—*W. H. Woodrow, Brockville.*

#### REPLY FROM ONTARIO :

Arsenic for pulp devitalization appears to have become the least desirable agent available, having been abandoned along with other drugs for root canal treatment which have proven to be injurious to soft tissue.

Pressure anaesthesia or infiltration or block anaesthesia with novocaine are most acceptable.

For long-standing chronically inflamed pulps in which failure with novocaine has been experienced, arsenic may be found useful. Prinz calculated that one grain of arsenic could destroy 1,400,000 pulps.—*Louis F. Krueger, Toronto.*

#### REPLY FROM ONTARIO:

After a number of years of using both arsenic and novocaine I have come to the conclusion that *in my hands* arsenic is not indicated in devitalization. Even the smallest quantity that can be used in a tooth seems altogether *too* much to control. The inconvenience to the patient of making more than one visit for this

purpose must be considered. The time element seems paramount with everybody in this day and generation and having a patient come back several times, often for only a few minutes, seems to them a waste.

Generally speaking, I avoid devitalization in teeth posterior to the cuspid where possible, and when devitalization is necessary, I use local anaesthesia.

Like all other dentists, I continue to extract a fair number of teeth I have devitalized in the past.—*John C. W. Broom, Kingston.*

#### REPLY FROM ONTARIO:

The writer cannot conceive of any case where novocaine could not be used in preference to arsenic. Any difficulty that he has encountered has arisen from his inability to sufficiently anaesthetize the pulp to permit of its removal. After many years' use of arsenic attended by the most unsatisfactory results, novocaine has proven to be the ideal anaesthetic for this purpose.—*O. S. Clappison, Toronto.*

#### REPLY FROM SASKATCHEWAN :

I have contacted the men in the city and in every case novocaine is used for devitalization.—*R. H. McDougall, Moose Jaw.*

#### REPLY FROM MANITOBA:

The use of either arsenic or novocaine for devitalization of the dental pulp depends upon the number of roots supporting the tooth to be devitalized, and the cause of the exposure necessitating

devitalization. If the tooth is not multiple rooted and the exposure accidental or deliberate so that infection of the pulp may be eliminated, novocaine would be the most desirable agent to employ. The novocaine method would also be indicated if pulp amputation is to be accomplished. But if the pulp exposure is the result of dental caries, arsenic would be the safest agent to use to avoid chance of apical infection resulting from the manipulation of nerve broaches in the removal of the contents of the canals. The use of arsenic is also the most satisfactory in multiple rooted teeth.—*J. F. Morrison, Winnipeg.*

#### REPLY FROM MANITOBA:

The technique of local anaesthesia with novocaine has been so perfectly developed and the risks involved in the use of arsenic are so many that we can easily account for the popularity of novocaine in the devitalization of the dental pulp.

In the use of novocaine the drug is under complete control, the operation may be completed in one sitting, strict asepsis can be maintained, operation is painless, non-irritant to surrounding tissues, patient has less discomfort and there is the minimum of post-operative soreness.

Arsenic requires several days or more to devitalize the pulp, and may require several applications. The pulp often becomes congested, causing severe pain. If not hermetically sealed in the cavity it will cause sloughing of the gums. The operator cannot control arsenic which often results in a permanently sore tooth.—*Colborne M. Truman, Winnipeg.*

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*"What a world! By the time you are important enough to take two hours for lunch, the doctor limits you to a glass of milk."*



# The Forum

## ● DENTIST'S DESIGN FOR LIVING—1937

TO decide, once and for all, that dentistry is a worth-while calling, to cease to "knock" and to prosecute his calling, daily, with vigour and enthusiasm.

To believe in dentistry, now and for the future.

To recognize the trust imposed on him by the nature of his calling and to see that that trust is duly honoured.

To realize that in the unity of the profession will lie its strength and to work for that end in every way possible.

To consider that the only solid reward lies in the knowledge of service rendered and to regard his work as a joyous opportunity.

To appreciate that, however much he knows, there is much to learn, and to endeavour steadily to increase his knowledge that his capacity for service may be the greater.

To be willing to learn from the experience of others and to make his own experience unreservedly available to his colleagues.

To take care that his work is not handicapped by obsolete equipment or inferior materials, and to be ready to keep abreast of technical development and to adopt new technique for the benefit of his patients.

To understand, to enable him to take his proper place as a citizen, that dental practice has a professional and a business side, and to give both sides due attention.

To endeavour, in so far as he may be able, to contribute something to professional progress.

To play his part to the utmost in the body corporate of the profession.

To give his share of effort towards the care of the needy who would otherwise be denied dental services. Herein, in part at least, may well lie the

DENTIST'S DESIGN FOR LIVING—1937.

—*Editorial, Dental Magazine and Oral Topics, January, 1937.*



Figure 1.

## ● CASE HISTORY

MR. C. Age 30.

Presented himself complaining of vague pains in the posterior of the right maxilla which seemed to involve the antrum. The first molar and both bicuspids were missing; the second molar vital with a small alloy restoration, slight

tenderness over labial surface of molar. Roentgenographic films showed an impacted third molar lying horizontally, occlusal surface pointing distally. Using tuberosity and posterior alveolar nerve block the second molar was carefully luxated although quite loose could not be removed. The tissue immediately posterior to the second molar was incised and the tuberosity exposed. Using bone chisels and bone bur the third molar was loosened enough to allow it to be extracted with the second molar. It can be seen in the accompanying cut that the third molar roots are fused to the lingual root of the second molar (Fig. 1). The opening was closed with mattress-sutures and the patient had surprisingly little post-operative pain.—*Hugh J. Kennedy, Regina, Saskatchewan.*

#### • TOOTH FRACTURE

by RUDOLF KRONFELD, B.S., M.D., D.D.S.  
(Summary of paper in *Journal of Dental Research*,  
December, 1936)

AN UPPER central incisor, having a fracture of crown and root, was examined histologically in serial sections through the anterior portion of a jaw obtained by autopsy.

The pulp remained vital, and a large amount of secondary dentine had been formed in the pulp chamber in response to the fracture of a corner of the crown.

No solid union between the two fragments of the root took place; but there was a fibrous connection that closely resembles, and is the functional equivalent of, the periodontal membrane.

The periodontal membrane of the fractured tooth shows the structure and thickness corresponding to the functional conditions. In the apical fragment the periodontal membrane is thin and atrophic; in the incisal fragment, thick and fibrous.

An epithelial attachment to the dentine developed on both fragments where

the fracture line through the dentine ran through the epithelial attachment.

The pulp of the upper left central incisor, which was not fractured, was destroyed by the trauma, and a granuloma developed at the apex.

#### • THE GREATER EVIL

WHY the medical profession as a whole should be opposed to socialized medicine is apparent to any layman who will take the trouble to study propaganda in its behalf. Dr. Terry M. Townsend, chairman of the committee on Medical Trends of the State Medical Society, presents some aspects calculated to cause concern to the layman on his own account. He has this to say:

*If the public does not awake . . . they are likely to have foisted on them a system by which they will be subjected to a pay roll tax for medical service. In addition the working-man will be required to contribute to the support of an army of clerks, supervisors, statisticians, "health study experts," snoopers, arguers and propagandists. Their job will be to entrench themselves on the public pay roll, interfere with the doctor as much as possible to make themselves important, and spend a large part of their time keeping in right with the bureaucrats above them. America does not need and does not want a medical system run by non-medical people who could not tell the difference between an x-ray and an electrocardiogram.*

Dr. Townsend adds that wherever compulsory health insurance is in operation vital statistics prove that the health of the people there is below the standard now existing in the United States. Laymen might not know about that, but the layman who has ever before come into contact with the squirts, whippersnappers and nosey parkers who invariably attach themselves to bureaucracy understands the rest of it right enough. It is bad enough now for a poor man to go into some clinics to be handled by a sprout

just out of medical college as if he were a parcel of none-too-welcome merchandise. What it would be under socialized medicine masquerading as compulsory health insurance is something upon which it is painful to reflect.

It is perhaps true that the health of the general public is no better than it should be. But it is by no means certain that public health under socialized medicine would be much better than it is. A greater evil, however, than indifferent health is the growth of the noxious spirit of bureaucracy.—*New York Sun*, Feb. 2, 1937—*per Medical Times*.

#### • THROAT PACKS FOR NITROUS OXIDE OXYGEN ANAESTHESIA

ALL throat packs, bite blocks and props should have identification strings attached to them. The ends of the strings should hang out of the mouth and be sufficiently long so that if the prop or pack is accidentally pushed into the throat, it could be easily recovered. It is best to tie the props in pairs. Thus one will be in the mouth and the other will hang out of the mouth on the string, keeping same taut and out of the way.

In placing the throat pack the following points should be borne in mind:

1. The removal of the mouth cover and the insertion of the pack should be so synchronized that there is the least possible ingress of air during this procedure.

2. Endeavour to insert the throat pack during the exhalation.

3. Always keep the tip of the tongue plainly in view so that there is no possibility of pushing the tongue into the throat or pushing the base of the tongue against the pharyngeal wall.

Very efficient throat packs may be prepared by the use of ordinary dental napkins, or hospital gauze cut in squares, absorbent cotton and heavy black silk

string. By varying the amount of cotton, we can create packs of different sizes.—*Excerpt from "Useful Hints on Nitrous Oxide Oxygen Anaesthesia," by Michael Max Rosen, D.D.S., Dental Outlook, May 1937.*

#### • LACERATIONS OF THE HANDS CAUSED BY BROKEN PORCELAIN HANDLES OF WATER FAUCETS

by E. J. STEENROD, M.D.,  
Fellow in Surgery, The Mayo Foundation  
and

R. K. GHORMLEY, M.D.,  
Section on Orthopedic Surgery, Mayo Clinic.

(Summary of paper in *Proceedings of the Staff Meetings of the Mayo Clinic*, April 21, 1937)

#### SUMMARY

PORCELAIN handles of water faucets may cause serious lacerations of the hands. The injuries may be superficial or deep, depending on the degree of pressure applied to the porcelain. The responsibility for the best results rests on the physician who sees the patient early when structures are in their relatively true anatomic relations. Delayed treatment is unsatisfactory and tendon and skin grafts may be necessary. The flexor pollicis longus tendon and branches of the median nerve have been found in our experience to be the most vulnerable to injury. Active movement and physical therapy should be started early.

#### • STATISTICS

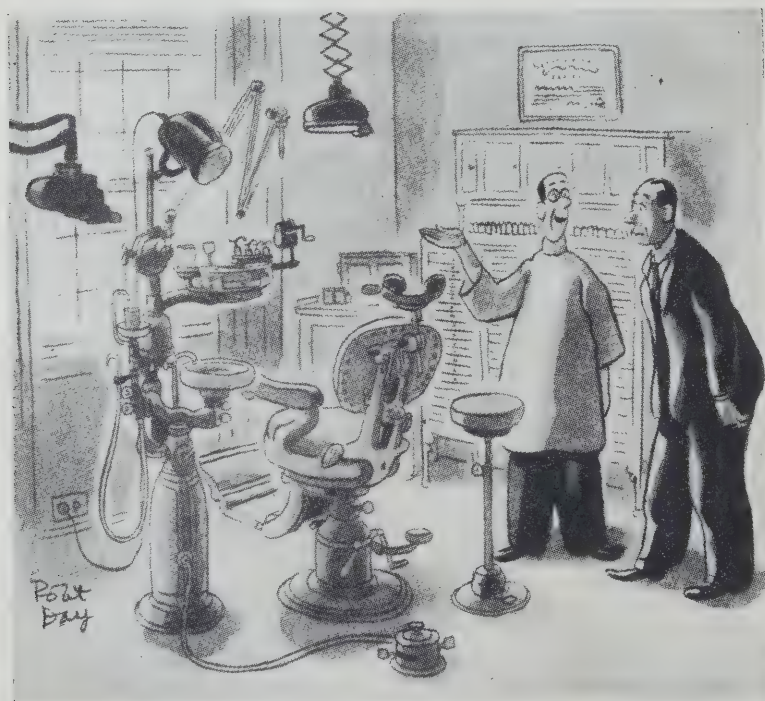
DON'T have anything to do with averages. Recently the Ministry of Health issued a Blue Book mentioning a mysterious malady which affected people of "an average age of forty-five". Doctors declared that they knew nothing of such a disease—and then it was discovered that the only persons who had ever had it were a baby aged twelve months and a man of ninety. — *Sir Thomas Inskip.*

● STATE MEDICINE

TO save the medical profession and the nation from the application of another European institution, about as well suited to our temper as peace-time conscription, it seems to us that the doctors will have to consider forthwith how medical, nursing, and hospital service can be rapidly extended in conformity with the public interest and with their own professional ideals. — *New York Herald Tribune, Dec. 1, 1936.*

● THE PROSPECTIVE DENTIST

CLEANLINESS and neatness in personal habits, a refined manner, good taste in dress, the ability to handle children and nervous adults and a certain skill in polite conversation are probably more important for the prospective dentist than for any other professional man or woman.—*Excerpt from short talks on how best to prepare in school for specific occupations — Globe and Mail, Toronto.*



"The pencil sharpener is my own idea."

*Copyright 1936, Life Magazine.*





PRINCE EDWARD ISLAND



W. T. Waye, Charlottetown

Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

SASKATCHEWAN



F. C. Harwood, Moose Jaw

QUEBEC



F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

NOVA SCOTIA



A. W. Faulkner, Halifax

ALBERTA



John Clay, Calgary

NEW BRUNSWICK



J. F. Edgecombe, Saint John

MANITOBA



J. F. Morrison, Winnipeg

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## Dental Equipment

If you enjoy a good cartoon, as the writer does, you will not pass over the one on the opposite page without a smile, but this picture deserves more than the mere passing glance. It would never have occurred to the artist to caricature pictorially the operating room of a dentist if there was not more truth than fiction in the statement that there has developed an undue tendency to get away from the simple and equip our rooms to the point of the elaborate, even to the point of the ridiculous at times, in order, perchance, to impress our patients. We do impress them—but how?

Even graduates of many years' standing are faced with this problem, but to the recent graduate it becomes, at times, a nightmare. He is confronted with the question, "Should I purchase a simple equipment or should I obtain the most expensive equipment and go deeply into debt as a result?" This question cannot be answered in a way which will meet the requirements of every case, since personality, location, financial status, and many other factors enter into the problem. I do wish, however, to discuss the question from a few helpful viewpoints.

One does need an operating chair, a chair that looks like a dental chair, a

chair that is comfortable and one that looks fairly up to date. Some months ago I replaced the chair I had used for years with one of the best foot-pump chairs I could buy and I was surprised at the number of patients who remarked upon the fact that I had a new chair. Six months later I replaced this new chair with a motor chair of the same type and I was equally surprised at the small number of patients who observed and spoke of the fact that the chair was raised and lowered by a motor. I am delighted with my motor chair but do not think it means very much from the practice-building standpoint. However, it is most important that the operating chair be kept in good shape and not allowed to run down, even if a new one is not purchased. Obtain bakelite arms for your chair, re-upholster it, and see that all nickel parts are freshly plated. If this cannot be done, then a new chair is in order.

In urban centres one needs also a cuspidor, a bracket table, and an electric engine. If these can be procured in an artistic unit, the arrangement is ideal. The problem here is that first one dentist and then another has approached the manufacturer and suggested that this gadget and that contrivance be added to this unit until, perchance, but one thing is missing—"the pencil sharpener". It probably costs no paltry amount to have a bunsen burner attached to the bracket table when, as a matter of fact, this is a most objectionable place to have it. One obtained for a few cents and placed back of the operator is infinitely better. To heat instruments and materials, apparently to red heat and then pass them to the patient's mouth, while the patient is watching, is psychologically bad and should not be countenanced. Without much care also, there is a danger, at times, of a patient receiving a burn from these bracket table burners.

On this unit is a small nozzle for filling the tumbler with water which also costs no small amount to manufacture, judging from the cost of the accessories on this masterpiece. It takes twice as long to fill the glass in this way as it does to slip it under the hot water tap. In many parts of Canada, if not all, the water taken from a faucet is too cold to be used in the mouth for rinsing and so the extra gadget is worthless. A fresh glass or sanitary drinking cup should be filled with water taken from the warm tap and placed at the chair *after* the patient is seated.

Furthermore, I am quite aware that some dentists never have a glass of water at the chair at all, and would that all of us could feel that we could manage without it. What a time-saver it would be when working, or trying to work on the type of patient described by Samson as "The Rinser"! This author says in his "Toothful Essays" that rinsers are completely uncontrollable while within reach of a tumbler of water, that they love it, worship it, then fly to it at the least provocation; and so through hours, as it seems of agonized work, the disciple of water worships it, to your disadvantage and loss of time. No opportunity is lost to hang with reverent head over the spittoon and there watch the glistening fount as it drops from a much-tired mouth. Then, finally, you stand weakly triumphant. The work is done and

your skies are brighter, but only for a moment, for there comes a plaintive cry, "Might I have a little more water, please?"

If you desire an electric fan attached to your unit, it will cost you eighty-two dollars laid down in Winnipeg. You can buy an excellent fan in any electrical department for a mere fraction of this amount, and it will prove perfectly satisfactory. If you wish a light added to the unit, it will cost another fifty odd dollars.

Now what about the miniature switchboard on the unit? The electric attachments on some of these units can be drawn out and used without the cords being dragged over the patient, but others do drag, and are very objectionable. Furthermore, is it ideal to be reaching across in front of the patient all the time? You may say that the answer is to place the unit on the right-hand side of the chair which overcomes some of these difficulties and also permits your assistant to be of service. Even then, though, is not the bracket table in the way when the patient wishes to use the cuspidor? Can you stand in front of the patient and talk directly to him without walking around to the other side of the chair? Perhaps your answer is to have the cuspidor on the left side of the chair and the unit on the right side. This appears to have many advantages if properly placed.

In either case, what about the problem of sterilization? How do you sterilize these appliances between patients? Is it obvious to the patient that you can sterilize them at all? When the nickel parts become dull, can they be easily re-nickelled and do you have them re-finished? This question of asepsis in the dental office is a burning one at the present time.

You have weighed all these problems carefully and many others also and have decided what suits you best. It has cost only the odd thousand dollars and your brand new equipment has been installed. Next week you learn that a completely new design of unit and chair and cabinet has been placed on the market by these same manufacturers and yours is now somewhat antiquated. You cannot blame the dealers because even they were kept entirely in the dark. When you buy a new automobile in the fall, you know when you buy it that a new design will be out shortly, and what you pay has some bearing upon the facts mentioned, but not so with your dental equipment. That is different.

I am not writing on this subject in any unduly critical attitude. If the truth were known, the dentist himself is to blame for much of this problem.

I am not one of those who considers that the supply houses are making a fortune at the expense of the dentist. However, I am making the strongest plea possible for the display of a little more common sense in these matters. I am advocating the simple, the practical, the artistic, beautiful lines and refined colour schemes which should be changed from time to time, and produced at a cost within the reach of the average dentist. Perhaps our equipment has been too well made and lasts too long for our own good or the good of our practice. Whether this be so or not, of this I am fully con-

vinced, that none of these problems will be adequately handled until the dental profession in Canada is thoroughly organized from Coast to Coast, when full-time officers will have opportunity to sit down and ponder on these things, and, in co-operation with our dealers and manufacturers, help us to solve some of these vital problems.

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## NEWS FROM THE PROVINCES

### ALBERTA:

#### Provincial Legislature

When the session of the Alberta Legislature met in February a strong opposition from within the ranks of the Social Credit party was found to have developed. The situation became so acute that the Legislature adjourned until June with the Budget not accepted. The opposition group chose as their leader H. K. Brown, D.D.S., of Barhead, M.L.A. for Pembina, Alberta.

As it is rumoured that the insurgent group is as strong or stronger than the Cabinet and its followers, it is possible that Dr. Brown may be the Premier of Alberta before long. For this reason it is of interest to know a few facts about him.

Dr. Brown was born in King's County, Nova Scotia, in 1897 and is of Canadian parentage. He was educated in Saskatoon, Sask., taking a normal school course there. He obtained his B.A. degree at the University of Saskatchewan, and his D.D.S. at the University of Alberta. He served during the World War with the 24th Battalion C.E.F., from 1915 to 1919. He taught school in Saskatchewan 1922, 1923. In 1934 he married and commenced practise at Barhead, fifty miles north of Edmonton.

Dr. Brown was elected to the Alberta Legislature on the Social Credit ticket in August 1935, and made his maiden speech in the 1937 session, just concluded. Before joining the Social Credit party he was a Liberal in politics.

At the 1937 session of the Social Credit Legislature this spring, he was one of the earliest rebels against the Government, urging that Social Credit should be instituted with more speed and charging that the Government had done nothing toward implementing its

promises. At one of the meetings of a group of about 20 Social Credit members who took this same stand, Dr. Brown was named leader.

With greyish hair and wearing spectacles, Dr. Brown is by far the tallest man in the Legislature, being 6 ft. 4 ins. in height.

#### Edmonton Dental Society

The officers elected at the Annual Meeting of the Edmonton Dental Society on May 4, 1937, for the ensuing year are: Past-president, Dr. A. M. Revell; president, Dr. M. M. Dunsworth; vice-president, Dr. F. M. Gowda; secretary-treasurer, Dr. D. R. McNabb; social convenor, Dr. C. H. Lipsey.

#### Calgary Dental Society

The officers of the Calgary Dental Society for the coming year are as follows: President, Dr. R. R. McIntyre; vice-president, Dr. O. B. Whitman; secretary, Dr. H. N. Heal.

### SASKATCHEWAN:

#### Moose Jaw Dental Society

The Moose Jaw Dental Society held the closing meeting for the season, in the clubhouse of the Moose Jaw Golf Club on May 11. A golf game in the afternoon, with a dinner in the evening was scheduled, but owing to inclement weather the former was cancelled.

Routine business was transacted and the annual election of officers took place, with the retiring president, Dr. D. J. McCauley, in the chair.

A committee, with Dr. D. W. Irwin as chairman, was appointed to arrange the program for the luncheon, for which the society is responsible, during the convention of the



Western Canada Dental Society in Saskatoon.

The following officers were appointed for the coming season: Dr. R. W. Cooper, president; Dr. G. G. Beesley, vice-president, and Dr. A. Lowey, secretary.

Dr. Frank Harwood, of Moose Jaw, is receiving congratulations upon the graduation of his daughter from the Moose Jaw General Hospital. Miss Harwood won the General Proficiency gold medal, presented by the medical staff.

#### **MANITOBA:**

##### **Manitoba Dental Association**

The annual June meeting of the Manitoba Dental Association has been set forward to July 7-8, so that the dental profession of Manitoba may have the much-sought clinics of Dr. Sanford M. Moose, of San Francisco. Dr. Moose is Associate Professor of Oral Surgery at the College of Physicians and Surgeons School of Dentistry, San Francisco, California. He is also immediate past-president of the California State Dental Association.

Dr. Moose has given his clinics all over the United States and has recently appeared before the British Columbia Dental Association and the praise from Vancouver of Dr. Moose's lectures, clinics and his "Natural Coloured Motion Pictures" is to the effect that no member of any dental association should pass up an opportunity to hear him and see his pictures which clearly illustrate the technique of ten oral surgical operations.

The July meeting will be held in Winnipeg and details of the program will be sent to all registered members of the Association in Manitoba.

##### **Dental Nurses and Assistants**

The Winnipeg Dental Nurses and Assistants' Association annual meeting in May took the form of a dinner and social evening.

The new officers include: President, Mrs. A. W. Sime; vice-president, Miss Noreen Phillips; secretary, Miss Vira Geddes; treasurer, Miss Mary Bachynsky; corresponding secretary, Miss Eileen Haddick; program convener, Mrs. D. Black; membership convener, Miss Marguerite Inkster; editorial convener,

Miss Joyce Golin; social, Miss Margaret Gilbert; sick and visiting, Miss Mary McArthur.

Prize winners were Miss Marion Scott and Miss M. M. Lovell.

#### **ONTARIO:**

##### **Toronto Academy of Dentistry**

The final meeting of the Toronto Academy of Dentistry was held at Osler Hall April 26. Dr. A. A. Fletcher gave a splendid discussion on the subject "Chronic Arthritis." His address was interesting and very instructive but covered so much ground that he has promised to write a paper for our journal later in the fall. The second portion of the meeting took the form of a panel discussion under the auspices of the Public Dental Health Committee. Dr. Fisk, Dr. Higgins, Dr. Marshall, Dr. Grant and Dr. Guest responded to questions asked by fellow members of the committee designed to demonstrate the activities of the P.D.H. Committee. Dr. Guest's reply to the question, "What consideration has been given to the subject of dental health insurance?" was most interesting and is reported verbatim as follows:

##### **What Consideration Has Been Given to the Subject of Health Insurance?**

The consideration of Health Insurance has been carried out in co-operation with the Public Dental Health Committee of the O.D.A. The Academy Committee has not, officially, carried out separate negotiations or studies, but, rather has acted through individuals who are members of both bodies.

The most recent and most significant development is in connection with the organization of "Associated Medical Services Ltd." This has grown out of a plan which was originally designed to provide group medical service or group health insurance for the members of the Ontario Civil Service. As the plan developed it received the blessing of the Ontario Government and the Ontario Medical Association and has now been widened to include any person who meets the conditions of the scheme. The purpose is to provide medical, surgical and nursing attention and hospital care.

The service is primarily for wage-earners. In Essex County, a separate organization has

been formed, which restricts patient participation to those earning less than \$1,800 per annum. Associated Medical Services Ltd., operating, at the present time, in Toronto and Norfolk County, has set no income limit.

The present arrangements provide that participants will contribute \$2.00 monthly for the first member of the family, \$1.75 for the second, \$1.50 for the third, \$1.25 for the fourth and \$1.00 for each additional member.

In return for this there will be provided complete attendance by the physicians at home, office or hospital, operating costs, anaesthetist's fees and a limited amount of drugs. Operating costs cover any operation which is ordinarily considered within the range of a competent surgeon. A patient may be required to pay a portion of the cost of a highly specialized operation.

Patients have the right to select their physician from the list of medical participants. Any licensed and ethical physician in good standing may be a participating physician, on application being accepted by the company. Doctors must be registered with the company before taking patients under the plan.

Medical participants will be paid at the rates laid down in the ordinary tariff of the Ontario Medical Association. These are the usual fees that ordinarily prevail between private practitioner and private patient, and are not prepared on any modified or wholesale or discount rate, for the purposes of this scheme.

The P.D.H.C. of the O.D.A. have been studying the details and development of the scheme, and on March 8 last, passed the following resolution—"That this committee views with favour the Health Insurance plan of Ontario Medical Services Ltd., and that Dentistry should study the plan to determine how it could be included."

As a result of the instructions of this resolution, a sub-committee has been working on the task of formulating a basis which would be acceptable and satisfactory to all interests concerned. Considerable difficulty has been encountered in this.

The advantages suggested, that would result from dental health insurance are:

1. Increased amount of practice available. Considerable rehabilitation would probably be required to bring the mouths of patient par-

ticipants to an acceptable condition of dental health.

2. Members would be induced to seek dental service more regularly. They would be paying for the service whether they received it or not, and would be more likely to secure regular, needed service.

3. It would be easier for member patients to discharge their financial obligations in connection with dental treatment—they would pay a small amount monthly instead of a larger amount yearly, or occasionally.

4. The profession would derive much factual information from participation.

5. Dentistry would be in a better position, if and when the government takes over this plan, or enacts other legislation along Health Insurance lines.

On the other hand, certain objections have been advanced.

1. It is questioned whether the insurance principle is applicable to dentistry. The basic principle of insurance is that many contribute comparatively small amounts, and the few who require protection or service take out the larger amounts needed. But we must assume that some dental treatment will be required each year by every participant. It is difficult to see how the insurance principle can be applied so as to have those who need less service pay for those who need more. This point could be elaborated on at great length, and ought to be studied carefully by the profession.

2. Remuneration on a per-action basis would inevitably involve a schedule of fees. Great difficulty would be experienced in preparing a schedule that would be suitable to both large cities and smaller centres, taking into consideration the difference in the cost of carrying on practice and rendering the service. Furthermore, there is a danger that this schedule, which would probably be on the low side, would come to be considered by the public as a standard, or indeed a maximum.

It will be necessary to guard against any attempt to have the fee schedule set on any wholesale or quantity basis.

Perhaps most formidable of all is the objection that it is difficult to see how any insurance scheme could be made to meet what appears to be the great economic problem in providing dental treatment at the present time—namely,

how to arrange financing and payment of the comparatively large amounts needed for the radical mouth reconstruction that is needed by so many people as a result of the neglect of the last few years. Clearly no company could provide forty, fifty or a hundred dollars' worth of dental treatment for an annual contribution of five, eight or ten dollars.

Of course this could be taken care of by supplementary payments by the patient, but this would not help the problem—it would simply leave it where it now is. This is a point which must be given much further and a more thorough consideration.

Our interim conclusion is that dentistry must watch this situation closely. We do not want to miss the boat in connection with any developments that may occur, in the task of providing health service to the community, but we must be careful to avoid a situation that will reduce our professional or economic status in any way.

#### **Dr. Andrew J. McDonagh Honoured**

In recognition of his long service in the profession, Dr. Andrew J. McDonagh received an honorary life membership in the Ontario Dental Association at the recent convention held in Toronto.

#### **Kent County Dental Society**

The following officers were elected at the April meeting:—

President—Dr. Clarence E. Higley.

Vice-President—Dr. W. T. Jeffs of Dresden.

Secretary-Treasurer—Dr. G. W. Cornell of Chatham.

Councillors—Doctors J. G. White of Bothwell, and C. T. Gray of Blenheim.

The meeting was addressed by Dr. W. B. T. May of Toronto.

#### **Illegal Practice**

The Board of the R.C.D.S. of Ontario report the following convictions and penalties for illegal practice of dentistry in the Province of Ontario since January 1, 1937:

Gil Macher, Toronto, convicted and fined

\$500 and costs or three months imprisonment. Macher appealed to higher court and lost the appeal. \$25 more costs were added.

Jas. P. VanZaudt, Toronto, convicted and fined \$100 and costs or 10 days.

Edward Lee, convicted and fined \$100 or 20 days.

Russel Perrin, Toronto, prosecuted at Lindsay, Ontario, convicted and fined \$200 and costs.

#### **Dentists' Wives Association**

At the first regular meeting of the Ottawa Dental Wives Association, Dr. Florence Dunlop gave an address on "A Square Deal in Education."

#### **Thunder Bay Dental Association**

The following officers were elected at the Annual Meeting of the Thunder Bay Dental Association, April 24: President, Dr. Karl W. Hettenhausen; vice-president, Dr. C. N. Simpson; secretary-treasurer, Dr. E. Klassen.

A toast to Our Alma Mater was proposed by Dr. Frank Blatchford and a toast to The Other Professions by Dr. J. S. Ritchie. A reply on behalf of the medical profession was made by Dr. J. H. Dennison and for the engineering profession by L. A. Goodall.

#### **Niagara Falls Dental Society**

Dr. Lloyd Jones was guest of honour at a dinner given by the Niagara Falls Dental Society on April 17, in the Hotel General Brock. After dinner the president, Dr. C. May, called upon Dr. G. J. Musgrove to give the presentation address.

#### **Huron, Perth and Bruce Counties**

Dr. W. A. Crich, of Toronto, addressed the dentists of Huron, Perth and Bruce Counties, April 28, under the auspices of the Extension Lecture Service of the Royal College of Dental Surgeons. Dr. Crich spoke and gave clinics on local anaesthesia, exodontia and on the value of the x-ray in dentistry.

**QUEBEC:**

**Montreal Dental Club**

Dr. Jacob Schneer, director of the Department of Dentistry, Beth Israel Hospital, New York, was entertained April 30 by the Montreal Dental Club. Commencing at four o'clock in the afternoon Dr. Schneer gave a very instructive lecture on "Root Canal Therapy," stressing the necessity of following a definite technique in each and every case.

At eight o'clock in the evening he again addressed the members and showed numerous lantern slides illustrating the many points of which he had spoken in the afternoon. He was especially emphatic about ample room for approach, proper sterilization and gave a simple method of culturing and staining for bacterial check-ups.

All in all his clinic was very instructive and very much appreciated by the members.

On Saturday, May 1, Dr. Schneer, who had remained over, gave the same clinic to the Mount Royal Dental Society and was again very well received.

**Dental Nurses and Assistants**

Dr. G. Guelph Armitage, of Montreal, addressed the Montreal Dental Nurses and Assistants Association at a meeting in its club-rooms on April 20. He spoke on the subject, "Dentistry for Crippled Children."

Following Dr. Armitage's address, numerous

slides were shown of the wonderful work being done in the Clinic at the Shriners Hospital for Crippled Children.

On May 4 the Montreal Dental Nurses and Assistants Association was addressed by Dr. Cripps, the subject being "The Tooth Brush, its Uses and Abuses." Much has been written and many lectures given on this subject but Dr. Cripps treated it in a different way and made his subject exceedingly interesting.

**NEW BRUNSWICK:**

**Dr. Hudson Honoured**

Dr. V. F. Hudson, president of the Moncton Dental Society, was honoured last month by friends, at a dinner on the eve of his wedding. A set of silver brushes and comb was presented by Dr. P. M. Knox, of River Glade, and J. E. Friel presented Dr. Hudson with a scroll signed by those present.

**BRITISH COLUMBIA:**

**Resolution**

At the Annual Meeting of the British Columbia Dental Association, held on March 13, 1937, a resolution was passed making the Journal of the Canadian Dental Association its official organ.

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## **EMPIRE NEWS**

**GREAT BRITAIN:**

**Dentists' Provident Society**

The 1936 report of the Dentists' Provident Society showed substantial progress in every direction. There are now more than 1,600 members holding 20,713 shares, with the total increased balance in their favour of £322,844, being interest at 4½ per cent, free from

income tax.

It is interesting to note that, since the commencement in 1908, the Society has also paid in sickness benefit £74,790, to members withdrawing £53,452 and to the legal representatives of deceased members £12,732, sums exceeding by more than £82,000 the whole amount of the contributions.—*British Dental Journal*.



## **AUSTRALIA:**

### **Australian Dental Congress**

Great preparations are being made for this outstanding event in dentistry, which is to be held in Sydney, August 16-20. A most comprehensive program of papers and clinics will be presented by the best men available, including contributions by leading practitioners abroad.

The subjects will include oral surgery, prosthetics, operative dentistry, radiology, periodontia, ceramics, medical and dental services, pathology and bacteriology, orthodontia, dental health, research and others, and there will also be a wealth of social entertainment to suit all tastes.

Members of the profession who have not yet visited Australia should take this opportunity of doing so. Tourists are coming in greater numbers now than ever before, partly to see for themselves what a wonderful country this is and partly because of the luxurious means of transport, the palatial steamers which now come to these shores being equal in design and comfort to the best which cross the Atlantic.

Australia is a country of absorbing interest. Pay it a visit in August next and see the high standard which dentistry has reached as a branch of science and as a profession, and also learn something more of a continent which is gradually but surely forcing its way into the world's affairs.

Very few people who have never been to Sydney can understand its great extent and its

wonderful charm. It is the largest city in the Commonwealth of Australia, the second largest in the British Empire, being next to London, and it will compare favourably with any of the great capitals of Europe and elsewhere.

### **Dental Health Education**

The position of Director of the Department of Dental Health Education of the Australian Dental Association is a whole-time appointment. The duties attached to the position include the preparation of radio talks, the carrying through of the Department's Dental Essay Competitions, the writing of articles for school and health magazines, the giving of personal talks at factories, kindergartens, etc.

## **SOUTH AFRICA:**

### **Salary of Dental Nurses**

The Dental Association of South Africa has had a letter from the Labour Department stating that a survey had been made in all the large towns of the Union, which had shown that the salaries paid to nurses were very low. Representations had been made for a Wage Board enquiry. The Wage Board recommended £9. 10s after five years' service, but the average salary paid was much below that. It was agreed that it would be better for the profession to look into the matter than for the Labour Department to take charge of it.

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## **GENERAL NEWS**

### **Webster-Seccombe Memorial Fund**

The Ontario Committee for the above fund states in a letter to the Ontario profession that generous recognition of meritorious service inspires and develops worthy traditions; that by the establishment of suitable memorials of this kind, the dental profession would not only acknowledge the loyal devotion and outstanding contributions of both these men, but

would also furnish inspiration to present and future dental students by creating interest in the achievement of these great leaders.

Ontario is aiming to have subscribed \$5,000.00 from one thousand contributors in that province.

The General Committee is composed of the Executive Committee of the Faculty of Dentistry of the University of Toronto, the Execu-

tive Committee of the Ontario Committee, a representative from each of the other provinces, and the Presidents of the Canadian Dental Association, the Royal College of Dental Surgeons of Ontario, and the Ontario Dental Association. This Committee will co-operate with the various provincial committees in formulating plans for the effective appeal for funds throughout Canada.

Contributions will be divided equally between the two Scholarships unless otherwise indicated.

#### **Testimonial Dinner to Dr. William J. Gies**

The American Dental Association, all state and local organizations, the National Association of Dental Examiners, the American Association of Dental Schools, the Dental Section of the American Association for the Advancement of Science, the International Association for Dental Research, the American Association of Dental Editors, the Canadian Dental Association, Omicron Kappa Upsilon dental honorary fraternity, and many others, have been invited to join with the American College of Dentists at its annual convocation on Sunday evening, July 11, at Atlantic City, in tendering a testimonial dinner to Dr. William J. Gies, in recognition of his many and notable contributions to the advancement of dentistry. No man who is not a member of the profession has ever achieved so much for dentistry. No one not a member of the profession has given so unselfishly and so effectively toward the educational, the scientific and the journalistic advancement of dentistry.

It has been decided that the dental profession can best show its further appreciation of Dr. Gies' sacrifice in the interests of dentistry, by establishing an endowment fund of \$50,000 in order to place the Journal of Dental Research upon a firm financial foundation, which Journal has recently become the official organ of the International Association for Dental Research, again through Dr. Gies' beneficence.

#### **New Hormone Used to Treat Decayed Teeth**

A new hormone for the treatment of decayed or loose teeth has been tried out success-

fully in Germany, according to the Munich *Medizinische Wochenschrift*, a medical paper. The hormone is composed of jaw bones and teeth.

The article says the experiment showed that the softened substance of decayed teeth hardened upon being treated with the hormone. The paper also claims that bleeding or receding gums were treated successfully with the hormone, which tightened loosened teeth and restored the health of gums.—*Chicago Tribune*, March 5, 1937, (A.D.A. Press Release).

#### **Small Loan Bank Borrowings**

The Financial Post of April 17th states that advances made by the Canadian Bank of Commerce under the small loans projects introduced last summer cover almost every phase of life. It is interesting to note, however, that half of the loans made by the bank to date have been to pay for medical and dental expenses or to consolidate existing debt.

Advances are made for a year re-payable in 12 monthly instalments. On instalments the interest rate, the cost of insurance on the life of the borrower and the service charge brings the effective interest rate to about 13%.

#### **A Special Invitation to Fraternities and Associated Groups to Attend the American Dental Association Meeting in Atlantic City, July 12-16, 1937**

A most cordial invitation is extended to fraternities and associated groups to attend the 1937 meeting of the American Dental Association in Atlantic City, July 12-16. An unusual opportunity is offered these groups this year in the way of facilities and environment to stage meetings and reunions that will go far to solidify their ranks and advance the purposes of their organizations.

Atlantic City is possessed of every qualification to make these meetings the most successful ever held. The hotels, as fine as any in the world, grouped within a convenient area along the Boardwalk and Atlantic Ocean or a mere stone's throw from it, are all within walking distance of the great Convention Hall where the scientific program will be held.

W. A. WILSON,  
*Chairman Publicity.*

### Calling All Dentists to Atlantic City July 12-16

The rolling waves of the Atlantic Ocean, beating a rhythmic song on the sandy shore of Atlantic City, seem to be saying "Calling all Dentists to meet here July 12 to 16, to join in the great gathering of the 79th Session of the American Dental Association."

A perfectly balanced program of scientific and entertaining events has been set up. On the scientific side, there will be over one hundred and fifty clinics, the largest display of scientific and health exhibits, a great array of the most prominent essayists and a formidable commercial exhibit. On the entertainment side there will be the unsurpassed Atlantic Ocean bathing, fishing and boating, the boardwalk and its many interesting and attractive features, the sunny broad beach, golf and sports, and the many beautiful side trips and sightseeing trips in the nearby country.

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### Chicago Dental Society

The Board of Directors of the Chicago Dental Society recently adopted a resolution opposing the passage of a Bill before the Senate of the Illinois General Assembly, to give the City Council of the City of Chicago the power to enact an ordinance to license, tax and regulate for revenue purposes, all industry, all business and all occupations in the city.

The directors believe that the application of such a law would work a hardship upon the business community in general and the dental profession in particular.

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### Children's Dentistry

One Friday evening last March, over one hundred dentists and oral hygienists met at the Guggenheim Dental Clinic to form a New York City section of a Society for the Promotion of Dentistry for Children. At least half those present had already paid dues and had received the quarterly official journal of the national organization, the "Review of Dentistry for Children."

### A Dental Law With "Teeth"

On March 15, the Governor of Missouri signed the new State Dental Bill. Under this law the State Board of Dental Examiners is given power not only to license dentists but also power to suspend or revoke licences. The only appeal from rulings of the board is through the circuit and appellate courts, the lower courts having no power of jurisdiction.

An unusual and far-reaching provision gives the Dental Board the authority to inspect any dental office in order to determine the sanitary condition of the office and instruments. This section of the law confers upon dentists, rather than upon lay inspectors, the power to regulate the conditions under which dentistry may be practised with safety to the public.—*(Excerpt from editorial in Oral Hygiene, May 1987).*

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### Pipe Dreams

State Senator John T. McCall, Democrat, of Manhattan, has introduced a bill that would add two cents to the retail price of every popular brand of cigarettes, one cent to each five cents for smoking tobacco and from \$3 to \$15 per thousand on cigars. The proposed tax is expected to yield \$25,000,000 a year, for the professed purpose of establishing and maintaining dental clinics for school children.

The newspapers of New York City were quick in recognizing the impracticability of the bill and hinted strongly that "dental clinics" represented but an innocent pawn in the game of politics. The dental profession in New York State has not been consulted in the introduction of the bill. While universal dental care for school children is, of course, a consummation devoutly to be wished, it is unfortunate that men find it necessary to use the teeth of innocent children as means to gain their devious ends.—*Editorial Review in New York Journal of Dentistry, May 1987.*

## IN MEMORIAM

**J. L. Kappele**—O.B.E. of Hamilton, Ontario, died at his home April 30. He had been a lifelong resident of Hamilton. In 1915 he enlisted with the Dental Corps and remained overseas until after the Armistice was signed. He was assistant director of dental services at London, England, until 1919, retiring with the rank of Major and was awarded the O.B.E.

Dr. Kappele was a member of First United Church, Hamilton Dental Academy, Masonic Order and Scottish Rite.

Surviving are his wife, his mother, two sisters and one brother.

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**Francis Hincks Miller**— of Aylmer, Ontario, aged 65, died April 16th at his home, following four months' illness. Dr. Miller had practised in Aylmer for many years and took an active interest in public affairs, serving several terms on the Aylmer Council and as a member of the Public Utilities Commission. He was a member of Trinity Anglican Church and of Malahide Lodge,

No. 140, A.F. and A.M., and Odd Fellows Lodge, No. 94.

Surviving are his wife, one daughter, three sisters and one brother.

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**J. Floyd Roberts**—of Toronto, Ontario, died May 5. Members of the class of '21 University of Toronto will regret to learn of the death of Dr. Roberts or "Robbie," as he was affectionately known by his intimate friends. He had been ill for some months, nevertheless his death came as a shock. In school days he dearly loved to play football. In later years he was always content to carry on simply, without show or glamour, but as just a good fellow, modest and retiring. His many friends mourn his loss.

•

**C. R. Wilson**—of York township, Ontario, died at the home of his mother, 24 Humber Trail, on April 18.



## ... SECTION FRANÇAISE ...

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## Editorial

### *La Consultation*

DES confrères de plus en plus nombreux se plaignent que la profession ne les fait plus vivre. Les uns accusent les mécaniciens, les autres la crise. Il n'y a pas de doute que cette dernière a considérablement diminué les sources de revenu de toutes les professions et que la pratique illégale de la dentisterie nuit beaucoup aux praticiens légitimes mais, il n'y a pas que cela.

Les dentistes eux-mêmes sont en grand nombre responsables de l'avilissement des honoraires professionnels. La cupidité chez les uns, l'inconscience chez d'autres les a poussés à sous-estimer la valeur de leurs services professionnels en donnant des consultations gratuites ou en exigeant des honoraires déficitaires. Il existe, paraît-il, certains dentistes d'une valeur professionnelle incontestable qui

donnent leurs services pour des prix ridicules. Il semble bien que ce petit moyen devrait être laissé aux incompetents qui n'ont d'autres qualités pour attirer la clientèle. Mais, dira-t-on, tant pis pour eux, c'est leur droit! Légalement, oui, mais ils n'en commettent pas moins une injustice. Un praticien de valeur qui avilit les prix est ordinairement un homme qui a des revenus étrangers à sa pratique. Consciemment ou non, il vit de ces rentes et par sa pratique empêche son voisin de vivre, lui qui n'a d'autres revenus que ses honoraires, et ceci constitue une injustice. On établit ainsi des prix de comparaison que le praticien ordinaire ne peut soutenir. En effet les patients viendront lui dire: "un tel est un excellent dentiste, (ce que vous ne pouvez nier, même si c'est faux)

et pourtant il a fait tel travail à tel prix", ce qui veut dire dans son esprit: vous ne pouvez faire mieux et vous exigez des honoraires plus élevés, donc vous exagérez.

La faute la plus communément commise est celle de donner des consultations gratuites. On descend ainsi au rang des charlatans dont la valeur des conseils peut s'élever au niveau de leurs connaissances. Si l'on vient vous consulter, c'est que l'on a confiance en vous, et en vos études sérieuses. On vient chercher chez vous ce qu'on ne peut trouver ailleurs, c'est-à-dire un avis basé sur des connaissances scientifiques que vous n'avez pas acquises instantanément et

gratuitement.

En outre a-t-on songé qu'une consultation sérieuse prend au moins une demi-heure de votre temps. Est-il si peu précieux que vous puissiez en disposer ainsi gratuitement à tout venant? Le patient intelligent qui obtient ainsi gratis pro Deo un conseil important, s'en ira dans un autre bureau consulter encore, espérant ainsi faire une enquête dont il profitera à vos dépens sans avoir déboursé un sou. Dans ce cas nous sommes les dindons de farce, ce que ne tolérerait aucune autre profession. Le commerçant donne des entrevues gratuites, les avocats, les médecins en donnent-ils?

Pourquoi les dentistes?

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## *Pompe à Salive*

par PAUL GEOFFRION, D.D.S., A.I.D.O.

*Professeur à l'Université de Montréal*

**L**A salive constitue pour l'opérateur un des embarras les plus sérieux de la pratique quotidienne. Les échecs dus à cet inconvénient ne se comptent pas tant ils sont nombreux.

Or depuis bien des années nous n'avons pour parer à cette nuisance que la pompe à salive.

S'il s'agit d'intervention au maxillaire supérieur on peut toujours se contenter du petit tube recourbé que tous connaissent. Mais dès qu'il s'agit du maxillaire inférieur nous n'aurons jamais d'instruments trop perfectionnés. Quelles qualités doit donc posséder cet instrument si important?

Toute pompe à salive pour être idéale devrait pouvoir: 1o-maintenir l'exclusion complète de l'humidité du champ opératoire aussi longtemps que l'opération le nécessite.

En effet pour être réellement utile, une pompe à salive ne doit pas seulement pouvoir exclure de la bouche un surplus de salive qui porte le patient à cracher en temps inopportun, ou à s'étouffer en essayant d'avaler continuellement. Elle doit assurer l'exclusion complète de l'humidité dans la dent et autour de la dent traitée. Or la digue en caoutchouc, a été jusqu'à nos jours le seul moyen d'arriver à ce but car, toutes les pompes à salive inventées jusqu'ici n'ont pu remplir cette condition. Qu'elles soient à un tube ou à deux tubes, elles ne peuvent aspirer la salive qu'à la condition d'être complètement noyées par le liquide. Autrement, si un seul des trous aspirateurs n'est pas submergé, l'air pénètre dans la pompe qui cesse aussitôt de fonctionner. Par contre si elle est submergée, c'est qu'il y a sur le plancher

de la bouche assez de salive pour couvrir les tubes aspirateurs or, en quelques minutes les cotons sont immédiatement saturés de salive. Comprimés à leur tour par la joue, ou la langue, ils inondent le champ opératoire. Donc faillite de l'exclusion de l'humidité. Cette expérience est universellement connue du monde dentaire.

En 1926, sans l'avoir cherché, prétend-il, le Dr. Thibaudeau trouva le moyen de fabriquer une pompe qu'il fit breveter en 1929.

Sans atteindre la perfection absolue, elle est encore ce que l'on a imaginé de plus pratique et de plus serviable.

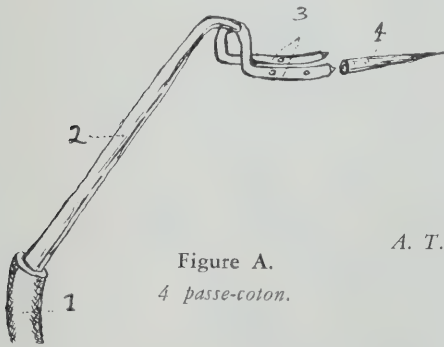


Figure A.

4 passe-coton.

Cette pompe à coton, ici décrite, obvie à tous les inconvénients mentionnés plus haut. Les deux branches de la fig. A., percées de trous aspirateurs sont enfouies au cœur d'un rouleau de coton hydrophile de Johnson comme on peut le voir (Fig. B). La pompe ainsi munie de ses deux cotons, est trempée dans l'eau avant d'être introduite dans la bouche. Ces deux cotons sont disposés de chaque côté de l'arcade dentaire et en dépression au dessous du collet des dents. (Fig. C) Le surplus de l'eau est immédiatement aspiré par le tube (1 de la Fig. A), qui est relié au système de succion déjà existant. La moindre goutte de salive qui apparaît sur le plancher de la bouche monte dans les cotons par capil-

larité. Et comme l'air ne peut atteindre les trous de la branche 3 à l'intérieur des cotons humides, ces trous travaillent à leur pleine capacité et les deux cotons sont toujours humides sans être saturés.

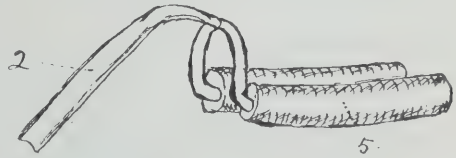


Figure B.

A. T.

Donc jamais à craindre qu'un mouvement de la langue ou des joues n'en fasse jaillir la salive pour inonder la dent. De cette sorte on peut garder les mêmes cotons en place aussi longtemps qu'on le voudra. Bien plus l'opérateur pourra se servir d'une seringue ou d'un vaporisateur pour laver la cavité. Les débris ainsi délogés sont entraînés par l'eau et vont se coller au coton pour y demeurer tout le temps de l'opération sans pouvoir boucher la pompe.

Donc, avec la nouvelle pompe, exclusion de l'humidité et maintien de cette exclusion sans digue, sans crampon et sans changer de cotons.

2o—Pour être l'idéale, elle doit:

Etre simple pour être facile à stériliser.

Or la pompe à coton est toute de métal et très simple, ça se voit.

3o—Elle doit faire disparaître la digue en caoutchouc ou en rendre l'usage extrêmement rare. Cet appareil constitue toujours un supplice pour le patient, car il nécessite l'emploi de ligatures qui lacèrent les tissus et d'un crampon en acier qui s'applique à la partie la plus sensible de la dent quand il ne blesse pas gravement la gencive. D'ailleurs son usage est strictement contre-indiqué sur les dents temporaires, les dents non

calcifiées ou sur toute dent atteinte de périostite.

40—Elle doit permettre l'usage de toutes les sortes de bandes, matrices, etc.

L'examen de la Fig. C indique sans nécessiter de preuve, l'existence de cette qualité.

être écrasés entre un tube en métal et le procès alvéolaire. Cette raison à elle seule aurait suffi à faire abandonner toutes les autres pompes. Avec la pompe à coton, tout ceci est évité, le rouleau de coton protège parfaitement les tissus.

60—Elle a sur toutes les autres,

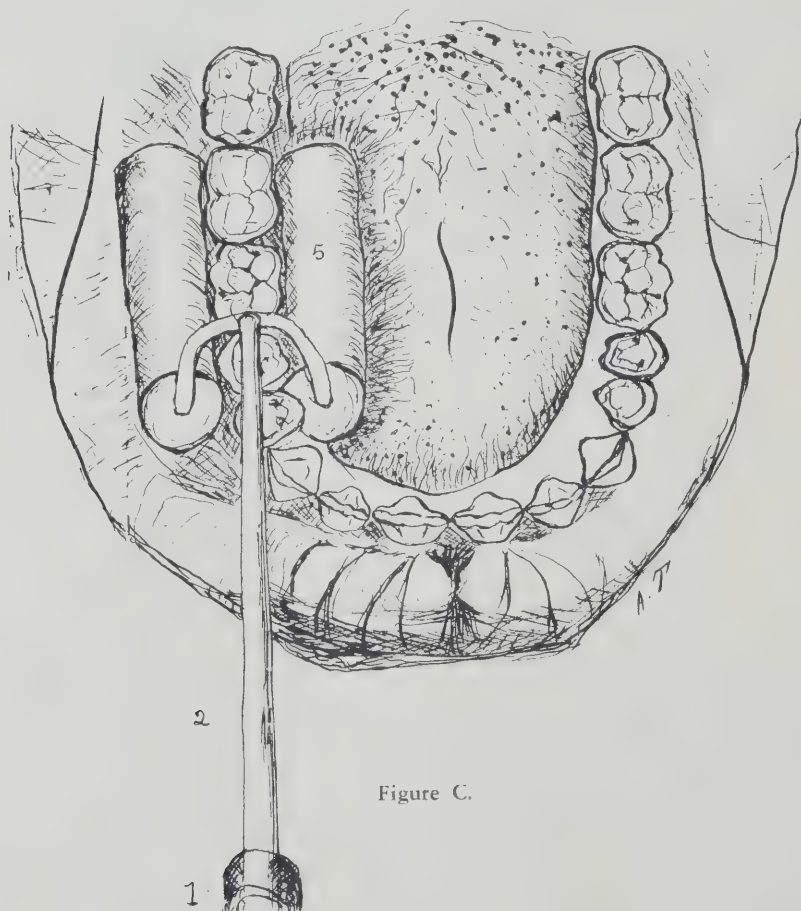


Figure C.

50—Elle doit pouvoir déprimer le plancher de la bouche sans gêner le patient. (Fig. C.)

Or aucune pompe existante n'a pu remplir cette fonction sans causer une vive douleur au patient.

En effet les tissus qui recouvrent les os du maxillaire, sont trop minces pour

l'avantage de permettre à l'Orthodontiste de cimenter ses bandes et poser ses appareils sans être gêné par la pompe ou par la salive.

Au praticien ordinaire, de cimenter couronnes, ponts, incrustations.

Elle doit être aussi peu encombrante que possible. En effet depuis 1880 on a



fabriqué les appareils les plus étranges. Les uns munis d'abaisse-langue, d'autres de crampons ou de miroirs, enfin de toutes sortes d'accessoires qui les ont rendus hors d'usage. Tout cet attirail nuit à la liberté des mouvements de l'opérateur et surtout provoque chez le patient des réflexes intolérables.

Il est évident qu'une pièce mécanique qui doit servir dans le traitement des humains ne peut être 100% parfaite. Il se trouvera toujours des cas plus difficiles ou il faudra user de son jugement pour avoir des résultats satisfaisants. Par

un usage de plusieurs années, j'ai aussi constaté qu'à certaines heures du jour, après dîner surtout, la salive sublinguale est plus épaisse, plus huileuse, ce qui nous oblige à changer le coton de la branche linguale, à moins d'avoir un appareil de succion très puissant.

Outre un bon jugement pour se servir de l'appareil, il faut bien placer la tête du patient de façon que le bout des tubes ne sorte pas des cotons pour blesser le patient, il faut de toute nécessité que l'appareil de succion, auquel est reliée la pompe, soit en bonnes conditions.

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## Commentaire Juridique des Observations Présentées

par MAITRE PEYTEL

*Avocat à la Cour d'Appel*

La Province Dentaire, Janvier-Février, 1937

Votre excellent Président a bien voulu me donner la parole pour vous parler de la responsabilité médicale d'une façon générale et théorique, et je m'excuse par avance de l'ennui que cela peut vous causer, car vous venez d'entendre diverses observations qui sont objectives, qui s'appuient sur des faits, qui vous ont intéressés car elles étaient extrêmement vivantes.

Maintenant nous allons rentrer un peu et légèrement — aussi légèrement que possible — dans la théorie, dans la doctrine, pour vous montrer quels sont les principes d'où plus tard le Dr. Bonnet-Roy tirera des enseignements utiles et d'après lesquels M. le Prof. Duvoir vous dira comment font les experts pour apprécier les procès qui leur sont soumis.

Par conséquent, si j'ose ainsi m'exprimer, nous faisons un petit numéro à trois, j'espère que ce petit numéro ne

vous paraîtra pas trop long.

Je dois vous faire un aveu tout d'abord, c'est que si j'ai des difficultés de temps en temps à parler, cela tient à tout ce que j'entends depuis près d'une heure; j'étais arrivé en très bon état, mais maintenant je sens des douleurs soit à droite, soit à gauche du maxillaire, selon le côté où est l'orateur, si bien qu'il faut m'excuser si j'ai parfois un défaut de prononciation: ce sera acci "dental".

La responsabilité médicale est un peu de tous les temps. Lorsque vous consultez les annales judiciaires, vous y voyez que depuis des siècles on a poursuivi les médecins, les chirurgiens et les dentistes. Cela tient à cet instinct qu'a l'homme de rechercher de bonnes raisons de gagner un peu aux dépens d'autrui.

Vous avez des procès célèbres; vous en avez qui ont permis à un homme qui a été admirable, M. le Procureur général

Dupin, de donner aux magistrats des conseils pour leur dire, en particulier, qu'ils n'avaient pas à se mêler de théories médicales et ne devaient pas s'ingérer dans les questions scientifiques. Ce principe est toujours suivi.

Mais la jurisprudence a évolué depuis quelques années et elle vient d'aboutir ces temps-ci à un Arrêt du 20 mai rendu par la Cour de Cassation, qui est extrêmement important. C'est pourquoi je crois qu'il faut vous parler ce soir rapidement du principe de la responsabilité médicale.

Autrefois et suivant les rites du Code Civil on a pensé, et les Tribunaux l'ont toujours jugé au cours du XIX<sup>me</sup> siècle, que la responsabilité médicale était issue de l'idée de quasi-délit, le fameux article 1382: "Quiconque a causé un dommage par son fait en est responsable". Il faut prouver une faute à la charge de celui qui a causé le dommage, prouver qu'il a commis le délit de blessure ou d'homicide par imprudence.

Comme en matière chirurgicale, médicale ou dentaire, il y a toujours une lésion subie par l'individu, c'est une blessure par imprudence, si on arrive au décès il y a homicide par imprudence, application des articles 319 et 320, c'est-à-dire qu'il y a responsabilité si on prouve à l'encontre de l'auteur de la blessure ou de l'homicide, une faute de négligence, d'inattention, d'imprudence, une infraction aux règles généralement suivies.

C'est ce qu'on a jugé pendant très longtemps; et ceci avait un gros avantage du point de vue médical, c'est qu'étant donné que la base de l'action était un délit, on ne pouvait poursuivre le médecin que pendant trois ans; au bout de ce temps, les délits ne sont plus punissables. On ne pouvait plus dans ces conditions poursuivre les dentistes et leur réclamer 100,000 francs—car c'est toujours 100,000 francs, on ne sait pas pourquoi—; on ne pouvait donc, dis-je,

leur réclamer cette somme légendaire après trois ans, car il n'y avait plus de base à une action pénale.

Seulement, Messieurs, la jurisprudence, c'est comme tout: il y a des progrès; et on en souffre.

La jurisprudence a évolué à la suite de la diffusion de l'automobile et des risques qu'il comporte. C'est un fait, les accidents d'auto sont devenus extrêmement nombreux; il était souvent difficile aux victimes de faire la preuve de la faute du chauffeur, de telle sorte qu'un beau jour, en 1926, la Cour de Cassation a eu cette excellente idée d'appliquer aux chauffeurs d'automobiles l'article 1384, qui est tout à fait voisin de l'article 1382 et qui pourtant dit exactement le contraire.

L'article 1384 met à la charge de celui qui a causé un dommage une présomption de responsabilité; on est présumé responsable du fait de la chose dont on a la garde. On a pensé à l'appliquer au chirurgien qui tient un bistouri, au dentiste qui tient le davier, au radiologue qui a un appareil superbe, en disant: c'est par le fait de la chose qui est sous votre garde que l'accident est arrivé; donc vous êtes responsable.

Cette théorie était extrêmement grave d'un grand nombre de points de vue; à un premier qui est celui-ci, tandis que celui qui poursuit en vertu de l'article 1382 exerce l'action fondée sur un délit ou quasi-délit qui se prescrit par trois ans, l'article 1384, lui, ne se prescrit que par trente ans et par conséquent pendant trente ans le malheureux dentiste qui a arraché une molaire peut se dire: je vais être poursuivi. C'est d'autant plus absurde que l'article 1384 en créant une présomption de responsabilité, ne permet pas à celui qui est poursuivi comme gardien de la chose, qui a causé des dommages, de se dégager de la responsabilité en prouvant qu'il n'a commis aucune faute; cela n'a aucune espèce d'im-

portance. Il faut pour se dégager de la responsabilité, qu'il prouve que l'accident est survenu par une force majeure, cas fortuit, faute de la victime et d'une manière générale par un fait étranger qui ne lui est pas imputable, comme dit la Cour de Cassation.

Il serait impossible dans les trois quarts des cas aux médecins, chirurgiens ou dentistes poursuivis, de se dégager de cette présomption de responsabilité, car comment voulez-vous, au bout d'un certain nombre d'années, retrouver les documents nécessaires pour faire les autopsies, pour permettre à de savants experts comme mon ami le Dr. Duvoir, de dire la vérité?

C'était le couperet, la guillotine, la condamnation assurée. Pourtant, Messieurs, il y a de très bons esprits—je suis obligé de le dire comme avocat—qui ont admis cette thèse.

Quelques arrêts, quelques jugements ont admis en effet l'application de l'article 1384 pour la responsabilité médicale, particulièrement en matière de radiothérapie. Et puis tout de même, les modes passent, même les modes judiciaires, et la mode de l'article 1384 a fait long feu. On s'est peut-être rendu compte aussi que c'était excessif; mais cela ne suffit pas, quand une thèse est injuste, ce n'est pas une raison pour l'abandonner prétendent quelques puristes.

Il y a eu revirement et c'est l'arrêt du 20 mai dernier rendu dans une espèce très intéressante qui a assuré ce rétablissement. J'ai parlé maintes fois de la nécessité de ce retour à la raison, car dès le début on sentait que l'application de l'article 1384 avait en soi quelque chose de désuet et d'exclusivement doctrinal.

Il s'agissait d'une femme qui avait une maladie nasale et qui s'était adressée à un radiologiste pour se faire soigner; on avait tenté la radiothérapie sur cette femme et au lieu de la guérir, elle avait eu une radiodermite épouvantable. Elle

avait attendu et c'est quatre ans après les soins du radiologue que cette femme avait demandé des dommages-intérêts devant le Tribunal de Marseille.

Le médecin opposa comme c'était la loi et la règle à ce moment-là, la prescription de trois ans en disant: vous me poursuivez en vertu de l'article 319 du Code Pénal pour blessure involontaire que je vous ai faite; il y a eu prescription après trois ans.

Le Tribunal de Marseille a déclaré qu'il y avait une convention entre la malade et le médecin et qu'en conséquence la responsabilité étant contractuelle, la demanderesse avait trente ans pour poursuivre le médecin.

En même temps, le Tribunal de Marseille repoussait l'application de l'article 1384 et ordonnait une expertise.

L'affaire est allée à la Cour d'Aix qui a jugé en 1933, et elle a rendu un arrêt intéressant, dans lequel elle précise d'abord, et ceci n'est peut-être pas très juridique ni très sérieux, que le médecin est lié au malade par un contrat de louage de services. C'est là qu'est la grosse difficulté de la question de la responsabilité. Ceux qui ont voulu dire que le médecin était responsable non pas en vertu d'un délit, non pas en raison de l'article 1384, mais d'un contrat, ont été bien embarrassés quand on leur a demandé de définir ce contrat qui lie un médecin à son malade. Ce contrat n'existe pas dans les lois; on ne le connaît pas. La Cour d'Aix avait trouvé que c'était un louage de services; cette définition est un peu légère, car le principe du louage de services, c'est la subordination. On ne voit pas bien le médecin qui ordonne, qui prescrit, se trouver en état de subordination à l'égard du malade qui n'a qu'à obéir.

M. le Procureur général Matter, qui est un grand esprit, a donné des conclusions qui sont remarquables; il a dit ceci: On a cherché longtemps à définir,

à spécifier quel est le contrat qui peut lier le malade au médecin; il n'y a pas besoin d'un contrat légalement prévu; nous ne sommes plus au temps où dans le vieux droit on tenait compte des coutumes de Normandie ou du Limousin, ni de la loi des douze tables du droit romain, d'après lesquels les seules conventions licites reconnues étaient celles qui étaient formellement spécifiées par la loi.

Aujourd'hui le Code Civil donne des règles générales à toutes les conventions; il s'agit d'entrer plus ou moins dans le cadre de ces conventions pour que le contrat soit licite. Disons simplement que c'est un contrat. Admettons avec M. le Procureur général Matter que ce soit un contrat innomé. Ceci ne suffisait pas, car quand on est entré dans la voie du contrat, il a fallu préciser les obligations du praticien. Nous avons vu M. le Prof. de droit Demogue écrire quelques articles fort approfondis sur la question. Il a dit: le médecin est lié à son malade par un contrat; le malade s'oblige à verser des honoraires et le médecin s'oblige à le guérir. C'était un peu simple et surtout enexact; d'abord le malade s'engage à verser des honoraires, c'est entendu, mais cela ne veut pas dire toujours qu'il les verse.

Quant au médecin, s'il s'engage à guérir le malade, je crois qu'il y a des chances que dans bien des cas il n'y parvienne pas. Quand un médecin prend un malade, il ne le rend pas toujours intact puisqu'il lui coupe une jambe ou lui arrache des dents, il ne réintègre donc pas le malade dans sa situation normale; de plus le médecin peut calmer la douleur, améliorer l'état, sans pouvoir guérir complètement. Sera-t-il alors responsable? Les meilleurs esprits alors se sont attelés à la question; ils ont dit: le médecin n'est pas dans l'obligation de guérir, ce qui est un peu absurde; le médecin s'engage à donner au malade des

soins attentifs, consciencieux, éclairés. Et comme il faut prévoir le côté scientifique, on a pensé—et le Procureur général Matter était de cet avis—qu'il faut que ces soins soient conformes aux données actuelles de la science, c'est-à-dire tels qu'ils sont constamment acceptés par tout le monde médical.

On est arrivé à une formule assez heureuse dans l'arrêt de la Cour de Cassation du 20 mai 1936, c'est celle-ci: le médecin s'engage à donner des soins consciencieux, attentifs et conformes aux données actuelles de la science, c'est entendu. Mais ce que le médecin fait, c'est se donner tout entier à son malade, avec ses capacités, ses instincts, ses possibilités de diagnostic, avec sa science qui n'est pas obligatoirement la science des grands maîtres, mais une science normale et que doit avoir n'importe quel individu normal pourvu du diplôme légal.

Par conséquent pour que le médecin, le dentiste puissent être condamnés en vertu du principe de la responsabilité contractuelle, il faut que le demandeur prouve à son encontre qu'il n'a pas respecté ses engagements, qu'il a été inattentif, négligent, imprudent, qu'il a manqué à ses devoirs et conscience, aux règles de l'art médical. C'est au malade à établir l'inexécution de la convention, la violation des obligations contractuelles. Ici nous arrivons à une distinction qui est celle-ci: il faut distinguer entre la faute légère et la faute lourde. Il y a dans le vocabulaire médico-légal des erreurs constantes sur ce point, et même dans les arrêts. Il faut distinguer. Tantôt les médecins, chirurgiens, dentistes, sont poursuivis pour faute de droit commun (inattention, légèreté, imprudence); dans tous ces cas, comme le commun des mortels, le médecin est tenu de sa faute, même la plus légère; une faute d'inattention même légère est une faute telle qu'elle peut entraîner la responsabilité



du praticien.

Au contraire lorsqu'il ne s'agit pas de faute de droit commun, mais d'une faute scientifique, dans ce cas le médecin n'est responsable que s'il a commis une faute lourde, c'est-à-dire s'il a commis une faute telle qu'un homme ayant une intelligence normale, ayant des possibilités de compréhension normale, ayant un diplôme, n'aurait pas dû la commettre. C'est la faute impardonnable, inexcusable, comme disait un arrêt de la Cour de Cassation de 1932; il faut que la faute soit lourde pour engager la responsabilité, et encore que la faute soit reconnue par un Tribunal éclairé par le rapport des experts. Car les tribunaux ne doivent jamais se mêler de questions scientifiques ni chercher à donner leur avis sur des questions chirurgicales ou médicales pour lesquelles ils sont incompétents et sur lesquelles ils n'ont pas le droit de décider.

Et alors j'en ai fini, rassurez-vous. Je voulais simplement vous dire ceci pour terminer: c'est que ce nouvel arrêt de Cassation, au fond, est beaucoup moins grave que nous ne le pensions; il est beaucoup moins grave dans ses conséquences, voici pourquoi: c'est en raison de la définition du contrat médical que je vous ai précisée à l'instant, celle qui consiste à dire que le médecin n'a qu'une charge, celle de donner ses soins attentifs, consciencieux aux malades. Cette définition est reconnue par le Procureur général Matter et par l'arrêt du 20 mai.

Qu'en résulte-t-il? C'est que par le détour de la responsabilité contractuelle, on en revient pour la preuve à la formule de la responsabilité délictuelle, et qu'après avoir dérangé l'un des plus grands magistrats de notre République, on est arrivé après quelques théories modifiées, à la même solution pratique qu'autrefois. En effet, au début je vous disais: on doit prouver une faute d'inattention, d'imprudence à la charge du

médecin; mais ici c'est la même chose: quand le médecin s'est engagé à être attentif, on doit prouver qu'il a été inattentif; quand il a pris l'engagement d'être éclairé, on doit prouver qu'il s'est conduit comme un imbécile, on doit prouver son imprudence, son incompétence, son oubli des règles suivies.

Ce qu'on doit prouver en définitive, c'est la faute du médecin; et alors ceci étant dit, nous arrivons à voir la dernière conséquence de la nouvelle théorie, celle de la responsabilité contractuelle; elle est plus rassurante en pratique qu'en théorie. Un des ennuis de la théorie de la responsabilité contractuelle, c'est qu'actuellement on peut poursuivre un médecin, un chirurgien-dentiste pendant trente ans, puisque la base de la poursuite est le contrat et non un délit. Mais si on peut le poursuivre pendant trente ans, c'est au demandeur à faire la preuve de la faute. Si les Cours avaient continué à admettre l'applicabilité de l'article 1384, c'était extrêmement sérieux parce que c'était au médecin de prouver que le fait reproché était dû à une cause étrangère qui ne lui était pas imputable, faute de cette preuve il demeurerait présumé responsable.

Mais cette fois-ci, les rôles sont renversés depuis l'arrêt de la Cour de Cassation, parce que si le malade attend vingt-neuf ans et demi pour attaquer le médecin, c'est lui qui aura la charge de prouver la faute du praticien, c'est lui qui ne trouvera plus ni les témoins, ni les documents, ni les experts, et ces derniers ne pourront rien faire. Alors, n'ayant rien pu donner pour apporter la preuve de la faute, le demandeur sera débouté de sa demande.

C'est tout ce que nous souhaitons; nous le souhaitons aujourd'hui pendant trente ans; autrefois nous le souhaitions pendant trois ans; et maintenant vous souhaitez que je me taise et je vous comprends.

# Revue des Revues

par GERARD de MONTIGNY, D.D.S., B.A., M.S.D.

## *Journal of the American Dental Association,* livraison de février 1937.

"LE REATTACHEMENT DE LA MEMBRANE PERI-DENTAIRE AU CEMENT DE LA DENT", par William G. Skillen, D.D.S., et G. R. Lundquist, M.S., D.D.S., Chicago.

Cette question du réattachement de la membrane péri-dentaire à la dent divise les chercheurs en deux grandes écoles: ceux, qui nient un réattachement et ceux qui prétendent qu'il se forme une seconde union du tissu conjonctif à la dent, après que la pyorrhée a opéré un décollement de la gencive.

Les uns représentés par Gootlieb, Kronfeld, Skillen et Lundquist et les autres par Box, Leonard et McCall apportent tour à tour leurs arguments en faveur de la thèse qu'ils défendent.

Dans cette étude, Skillen et Lundquist apportent des preuves contre un réattachement de la membrane péri-dentaire.

"LE RENDEMENT FONCTIONNEL DES DIFFERENTS GENRES DE CUSPES DES DENTS PROTHETIQUES", par Morris J. Thompson, D.D.S., Los Angeles, Calif.

L'auteur insiste sur la propriété relative qu'ont les dents artificielles de mastiquer la nourriture d'une façon propre à son assimilation dans l'estomac. En partant du principe qu'une mastication convenable des aliments favorise la physiologie normale du tube digestif, il analyse le rendement des différentes sortes de cuspes dentaires au moyen d'expériences bien menées.

Tous les dentiers furent construits de la même façon, dans la bouche du même

patient; le montage des dents fut toujours balancé; seules les dents furent changées. Et comme conclusion, le Docteur Thompson a trouvé que les dents anatomiques avaient un certain avantage fonctionnel sur les autres genres de dents et que le facteur le plus important dans l'efficacité de la mastication réside dans le balancement centrique des dents et la distribution égale des forces sur la surface des mâchoires.

"LES AGENTS THERMIQUES", par Sanford M. Moose, D.D.S., F.A.C.D., San Francisco, Calif.

Faut-il appliquer du chaud ou du froid dans un cas d'infection ou de fluxion d'origine dentaire? Voilà une question bien débattue et bien incomprise par plusieurs praticiens. Le Docteur Moose, dans cette étude, compile les opinions des chirurgiens les plus en vue du monde dentaire à ce sujet et conclut son article en donnant son propre avis, basé sur la physiologie sanguine et sur une expérience de plusieurs années.

"LA NUTRITION ET SES RELATIONS AVEC LA GINGIVITE: OBSERVATIONS FAITES CHEZ LES INDIGENES DE LA NOUVELLE-GUINEE", par R. M. Kirkpatrick, B.S.D., D.D.Sc., Sydney, Australie.

L'auteur a fait des recherches en Nouvelle-Guinée sur l'état des gencives des indigènes et sur les aliments ingérés par ceux-ci. Il a trouvé que ceux qui mangent des aliments coriaces sont moins sujets à la gingivite que ceux qui absorbent des mets ramollis; il en est de même pour les malocclusions.

"LES MANIFESTATIONS BUCCALES DE LA SYPHILIS INFANTILE CHEZ LES BEDOUINS", par E. H. Hudson, M.D., Doir-ez-Zor, Syrie.

La "Bejel", nom arabe pour une syphilis acquise, non-vénérienne et rencontrée chez les enfants comprend deux stades: le stade primitif et le dernier stade séparés par une période latente de longueur indéfinie; elle présente des manifestations buccales dans toutes les périodes. Les lésions premières sont des plaques muqueuses et les dernières manifestations sont des ulcères qui peuvent attaquer et se répandre aux tissus contigus à la bouche.

"NOUVELLE METHODE PRATIQUE D'OBTENIR DES RADIOGRAPHIES SCIENTIFIQUES DE L'ARTICULATION TEMPORO-MANDIBULAIRE", par L. B. Higley, B.A., D.D.S., M.S., Iowa City, Iowa.

Assez récente est cette théorie qui attribue à une défectuosité de l'articulation temporo-mandibulaire un grand nombre de douleurs obscures de la tête, maux de tête, maux d'oreilles, brûlements de la langue etc.

Dans ces cas il s'agit de redonner au condyle et à la cavité glénoïde leurs relations normales, en ouvrant ou en fermant l'occlusion. Pour contrôler ces relations, la radiographie nous est d'un précieux secours—et l'auteur nous indique ici une méthode que nous croyons être la seule pour obtenir et interpréter des radiographies de l'articulation temporo-mandibulaire.

"LE COULAGE DES INCRUSTATIONS—UNE METHODE SIMPLE ET PRATIQUE", par R. E. Sturdevant, D.D.S., Lincoln, Nebraska.

Une bonne reproduction en or d'une masse obturatrice requiert comme première condition une empreinte parfaite en

cire. Avant de nous parler de sa méthode de coulée, l'auteur dit quelques mots des qualités, que doit posséder une impression de cire. Le fond de son travail traite de la mise en place de la tige, de l'investissement du modèle de cire et de la coulée.

Cet article touche à plusieurs points très pratiques.

"UNE FORMULE BIO-MATHEMATIQUE POUR UNE OCCLUSION IDEALE", par George H. Maxell, D.D.S., Chicago.

L'auteur déclare que l'occlusion des dents ou les lois fondamentales, qui régissent l'occlusion devraient constituer la base de toutes les opérations du dentiste; il donne les principes d'une bonne occlusion et les avantages procurés par celle-ci; il définit en termes dynamiques et géométriques en quoi consiste une occlusion idéale, théorie basée sur des lois fixes de dynamisme et sur les principes de la sphère.

"DIAGNOSTIC ET TECHNIQUE DE CORRECTION POUR LE TRAITEMENT DU TRAUMATISME INTERARTICULAIRE ET PERIDENTAIRE", par Kenneth A. Bignell, D.D.S., Chicago.

La prévention et le traitement de la péricémentite par la correction de l'occlusion ont depuis longtemps été pratiqués avec des succès plus ou moins marqués. L'auteur explique d'abord ce qu'il faut entendre, par traumatisme périodentaire, son étiologie et ses manifestations (tout aussi bien dans l'articulation temporo-mandibulaire que dans la membrane périodentaire des dents). Le Docteur Bignell nous montre sa méthode de découvrir les défauts de l'occlusion et les différents moyens mis à la disposition du praticien pour la distribution égale des forces de la mastication.

# Nouvelles des Sociétés Dentaires de la Province

par GERARD de MONTIGNY, D.D.S., B.A., M.S.D.

*La Société de Stomatologie de Québec*

LA Société de Stomatologie de Québec tenait sa réunion mensuelle, jeudi, le 15 avril, à l'Université Laval, sous la Présidence de Gustave Ratté.

Le conférencier invité pour la circonstance était le Docteur Fernando Hudon, chef-anesthésiste à l'Hôtel-Dieu de Québec.

Le sujet de sa communication était: "L'anesthésie générale, sa préparation et ses dangers."

Le Docteur Hudon, après avoir fait un bref historique de l'anesthésie générale, brossa un tableau des principales substances employées de nos jours, en appuyant sur les indications et les contre-indications de chacune.

Le conférencier, en outre, s'entendit assez longuement sur la prémédication ou la préparation du patient afin de le disposer à l'élimination prompte de la substance anesthésique.

Enfin le Docteur Hudon entretint les

membres des dangers que présente l'anesthésie générale et des moyens à prendre pour les combattre.

*La Société Dentaire de Montréal*

L'hôte d'honneur de la séance d'avril était M. A. D. Milot, qui fit une causerie sur "l'Ionothérapie, ou l'anesthésie de la dentine au moyen d'ions anesthésiques."

Après avoir expliqué le principe sur lequel repose cette thérapeutique, le conférencier énumère les principales substances employées en chirurgie dentaire pour ce genre de médication.

Pour illustrer sa causerie, le Docteur Milot démontra comment avec un appareil d'ionisation on peut anesthésier la dentine pour le fraisage et le meulage des dents. Les Docteurs Perreault et Lucien Reeves firent les présentations et les remerciements d'usage. A cause de l'heure avancée, le travail ne put être discuté.

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## On Demande

La rédaction aimerait beaucoup entrer en communication avec le confrère qui aurait une chaise de dentiste à donner, quelqu'en soit l'âge. Il nous faudrait aussi un tour à pied ou électrique.

Il s'agit ici d'une charité qui ne sera pas sans bénéfice pour le donateur.

Prière de communiquer avec HA. 0616—d'écrire au rédacteur.



## Accomplishment



There is no easy way to accomplishment, as the youngsters of to-day will find out to-morrow, no matter what machine-made leisure is being planned for them by coddling economists. Even the things one likes best can be attained only by doing the things one hates most.

Achievement worthy of acclaim is never purchased cheaply. Back of it invariably is a man who was a slave driver to himself, who drove himself to do the daily drudgery necessary when he would far rather have been doing anything else, who learned to discount defeat and discouragement and to keep plugging, regardless. Such a man just can't be downed. But his triumph, when it comes, is not an overnight affair or the roseate thing so often pictured in the Press.—*Paul Whiteman in the "American Magazine"*.



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Member of the International Spanish Speaking Association of Physicians,  
Dentists and Pharmacists.

# The Journal

OF THE CANADIAN DENTAL ASSOCIATION

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## The Impacted Mandibular Third Molar \*

by GEORGE A. MORGAN, D.D.S., Toronto, Ontario.

PREVIOUS to the more general routine use of the roentgen ray, the study of the impacted mandibular third molar revolved around the tooth removed, rather than the socket, or, as was frequently the case, the excavation from which the tooth was "taken". In the removal of the impacted mandibular third molar, the same general fundamental principles as applied in surgery elsewhere in the body should not only be considered, but strictly observed. It should not be necessary to emphasize that this often difficult problem should be preceded by definite, well-planned procedures, as definite as any other dental operation. The dental surgeon should endeavour to visualize each step in the operation.

The first essential should be a definitely clear roentgen ray of the tooth to be removed, along with adjacent tooth and bone structure. Having this above mentioned information before him, the dental surgeon should, along with a clinical examination of the patient's mouth, determine several important factors:

(1) *Justification for the removal of the impacted mandibular third molar—*

Justification for the removal of same may be based on many factors, among

them being—elimination of pericoronal abscess, as a preventive orthodontic measure, pain due to pressure on the inferior dental nerve, development of cystic tendencies, or causation of decay in the adjacent second molar.

(2) *Pre-operative condition of the second molar—*

This important pre-operative consideration should be carefully studied. The root and crown formation, the amount of restorative material or the amount of decay are but a few of the many factors to be observed. The patient should then be informed as to the relationship existing between the second and impacted third molars and also as to the probable prognosis.

(3) *Bone to be removed—*

Some opinion as to quality and quantity of bone to be removed should be pre-operatively determined. Many factors will have a bearing on this important pre-operative problem—age, sex, nationality of patient, curvature of root or crown structure, extent of coronal and pericoronal sacs and amount jaws have been in function.

(4) *Prognosis—*

It is advisable to discuss the prognosis with the patient so that he may be pre-

\*Presented by invitation at Peterborough and District Dental Society, Wednesday, March third.

pared for complications, but he should not be unnecessarily alarmed, and precautions should be dictated by common sense.

*(5) Type of anaesthesia and pre-medication—*

Much of the discomfort experienced during the extraction of the impacted mandibular third molar is due to fear, which is more or less inherent. We, as dentists, especially in complicated extractions, are beginning to recognize the value of pre-operative medication to reduce the apprehension which the patient may have regarding surgical procedures. Adequate pre-medication not only insures co-operation from the patient during the operation but also adds a great deal to his comfort for several hours after surgical interference. If a general anaesthetic is the one of choice, nembital, grains one and one-half will reduce tendency to nausea and vomiting. If a local anaesthetic is the one of choice, and, if the extractions are to be severe rather than extensive, one and one-half to three grains of nembital will do much to alleviate apprehension and fear as well as to increase the tolerance for procaine. If the case is such that hospitalization of the patient is desirable, nembital grains one and one-half to three can be used in conjunction with one-sixth grain of morphine and will tend to more readily produce "basal narcosis".

A local or general anaesthetic may be chosen for the extraction of teeth. Some dentists prefer a certain anaesthetic, either because of the technique employed for a particular piece of work or because of long acquaintance with that anaesthetic. Equally good results are obtained with different anaesthetics in the hands of different operators. It would seem that the type of anaesthetic used is dictated purely by choice if the ultimate result is the same; however, the physician may furnish some information which

would make one seem more desirable than another. For example, a general anaesthetic would be contra-indicated in certain conditions of the thorax.

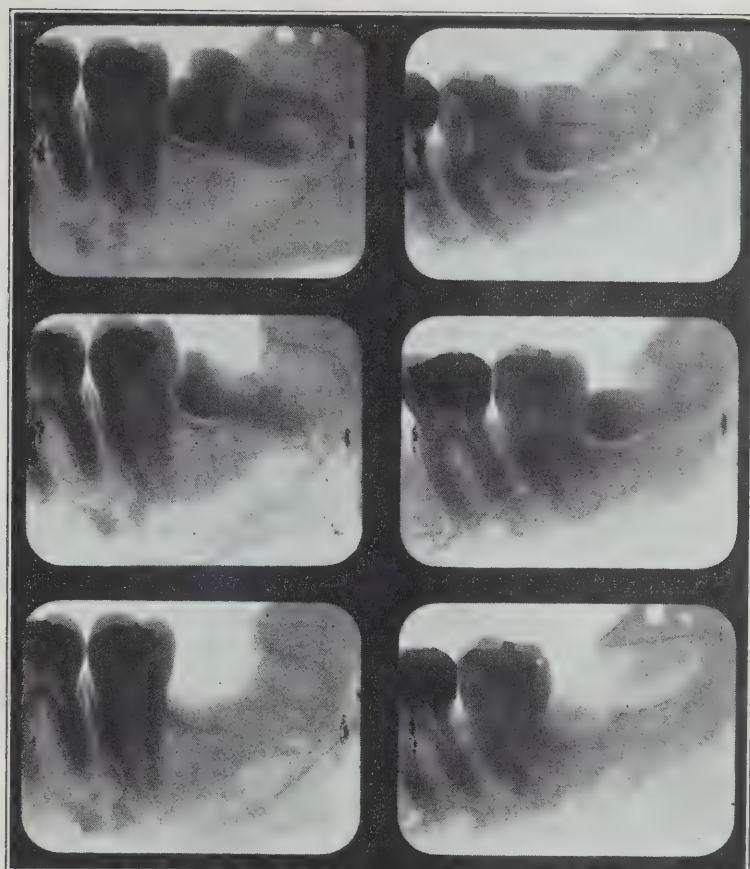
*(6) The incision for the flap—*

Assuming that the instruments are sterile, the field walled off with sterile gauze, and the tooth partially or completely covered with alveolar tissue, then it is necessary to make an incision in order to retract a flap. The retractor should be an instrument which will accomplish the purpose for which it was intended with minimal trauma to the flap. The situation and type of incision are determined by the roentgen ray and clinical findings. There are various types of incisions that are equally satisfactory as far as access and visibility are concerned, but to avoid its sloughing, the flap must have an adequate blood supply. The incision should include the periosteum, as it is advantageous to retract the periosteum with the other soft tissues. Post-operative results are much better when the periosteum is less traumatized. This particular point was brought out by Crile, who emphasizes that injury to the periosteum results in shock.

*(7) The operation—*

Gardner, Austin, Stafne Technique. There are two methods of creating space to facilitate the removal of an impacted mandibular third molar. The more popular method is to remove the process so that the tooth can be crowded into the space created and then lifted from the socket. The other is to create space by incising a part of the tooth. By this method, a minimum amount of alveolar process is cut away and space is created at the expense of the tooth to be removed. Generally when the crown is lifted by an elevator, especially in the horizontal, the roots are likely to traumatize the nerve trunk; whereas, if the crown has been severed and the root or roots forced forward into the space



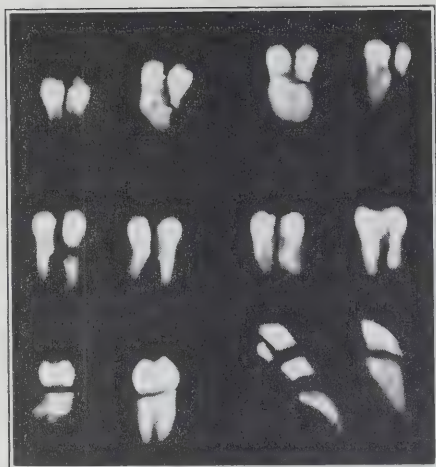


**Figure 1.**

- A—Problem—Extraction impacted right mandibular third molar, necessitated as a preventive orthodontia measure, bifurcated roots.*  
*B—Dental roentgenogram demonstrating intermediate step in surgical procedure.*  
*C—Dental post-operative roentgenogram demonstrating complete removal of tooth with minimal amount of bone destruction.*  
*D—Problem—Extraction impacted right mandibular third molar, necessitated because of neuralgic type of pain, fused roots.*  
*E—Dental roentgenogram demonstrating intermediate step in surgical procedure.*  
*F—Dental post-operative roentgenogram demonstrating complete removal of tooth with minimal amount of bone destruction.*

created by the loss of the crown, the possibility of inferior dental nerve parasthesia is greatly reduced, unless the nerve is so held by the roots that any movement of same would produce a definite pull or traumatic injury to the contents of the canal.

In order to use the mallet and chisel to cut or split the crown or any part of the tooth, it is necessary that the chisels have a long bevel and be sharpened to razor keenness. The mallet should be of a certain weight and shape, and the blow should be struck in such a way that the



**Figure 2.**

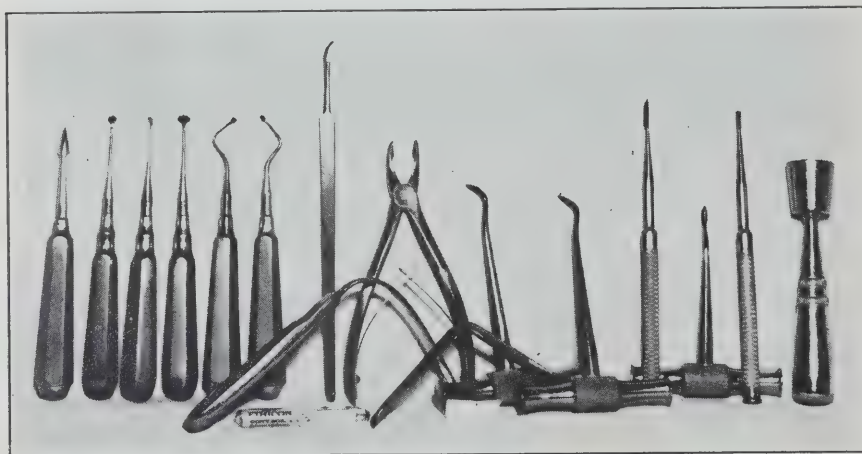
*Demonstrates various angulations at which impacted teeth may be split, thereby creating space which facilitates the removal of the remaining tooth substance with minimal bone destruction.*

two instruments will meet at right angles. There should be sufficient mass of the

mallet directly back of the point where the chisel is met and with the angulation of this particular mallet, all requirements are much easier than with the older conventional type. There should be no rubber tips on the chisels and the head of the mallet should not be made of soft material.

The assistant should not hold the mallet tightly in delivering the stroke, as in this manner it is not so effective as when loosely held. The stroke should be short, not a "follow through" as in golf. The author has found the mallet and chisel illustrated to be far more effective than any revolving instruments, and by their use much time is saved.

The amount of bone to be cut away will vary in different cases, but sufficient bone must be removed to uncover the part of the tooth where the chisel is to be applied. In other words one does not attempt to cut bone and tooth at the same time. Seldom is it necessary to re-



**Figure 3.**

*Instruments used in the removal of the impacted mandibular third molar employing Gardner, Austin, Stafne technique.*

*Left to right—Spade periosteal elevator, Clev-Dent No. 12—Molt curette Nos. 1, 3, 4, 5 and 6—Austin knife—Rongeurs—Clev-Dent elevators Nos. 150, 151—Gardner driving chisel No. 51—Clev-Dent elevator No. 135 — Gardner bone chisel No. 52, note long bevel — improved Gardner mallet—Sharpe & Smith tongue retractor—Triple O Ethicon catgut suture material—Austin cheek retractor—Half-round Gardner needle.*

move any of the lingual plate and no attempt is made to remove large pieces of bone in one cutting, as better post-operative results have been obtained, when the cuttings are small.

It should be emphasized that the correct blow from the type of mallet to which reference has been made, is not so severe as some operators may think, and certainly far less annoying to older patients than when sufficient pressure is applied to a hand chisel to cut bone, especially if the mandible has been subjected to a great amount of functional use.

*(8) Post-operative treatment—*

Post-operative treatment will depend largely on the degree to which asepsis has been carried out, and on the amount of trauma produced. Dental surgeons should, in a large percentage of cases, replace and suture the flap. The use of 000 catgut suture material is recommended because of its resilience and absorbable qualities. To prevent inflammation

and post-operative swelling, an ice pack is applied immediately after the difficult extraction of teeth, the success of the measure depending on its immediate use. Lowering the temperature of the part prevents extravasation of the elements of the blood and lymph, a process which tends to occur more readily in an area of higher temperature.

CONCLUSIONS

Strict adherence to the foregoing procedures along with the technique of slitting tooth structure as originated by Doctors Gardner, Austin and Stafne of the Section on Dental Surgery, Mayo Clinic, has, in the opinion of the author, done much to alleviate painful post-operative sequelae, facilitating in many instances, the easy removal of otherwise difficult impacted mandibular third molars. Routine post-operative roentgen rays and records of a series of cases, has justified in the minds of both the patient and the dental surgeon, the sanity of the adoption of this method of removal.

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## Dentistry in India

by R. AHMED, D.D.S., F.I.C.D., Calcutta, India

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THE facilities of obtaining dental education in India are all too limited, for such a huge sub-continent of 350 million people. There are two fully equipped dental colleges which offer a four years complete course in dentistry. One is the Calcutta Dental College and Hospital, founded in the year 1920, and the other is the Nair Hospital Dental College, Bombay, founded in 1928. Besides these there are one or two dental schools which offer courses of one or two years, turning out not fully qualified dental surgeons but empirical dentists,

who flourish because there is no dental registration law in any province of India and no standards of dental education. In the year 1934 the Government of Bengal appointed a "Dental Education and Registration Enquiry Committee." This committee submitted a report in 1936 to the effect that a State Dental Board be established for the province of Bengal and that the Board be authorized to hold examinations for a license to practise dentistry in Bengal and that the first affiliated institution for the training of students be the Calcutta Dental College

and Hospital. Since then the Calcutta Dental College has been following a four years curriculum and course of studies as recommended in the Government Committee's report. The report is still resting in the Government archives and has not yet been brought into use. No doubt things move slowly in the Orient!

The problem of dental registration is a very important one from the point of view of the profession as well as of the public. Every modern state has some statute to control the dental profession and education. Even comparatively backward countries like Syria, Iraq, Iran, Egypt, Kenya, Straits Settlement, Ceylon, and others possess such controlling legislation. Repeated demands have been made of the Government of India and the various provincial governments to pass an Act which shall restrict the practice of such an important profession to those who know enough about it to be able to render safe and valuable service to the people. No heed has yet been paid to these demands. The result has been that British India to-day has been flooded with quack Chinese, Japanese and other dentists, who are not allowed to practise in their own country. You will find these

charlatans in every small town and in every bazaar. It is the duty of the State to remedy this state of affairs.

Some attempt has been made to give medical relief to the poor Indian villager by the establishment of dispensaries and hospitals in the villages and small towns. In India you can have your leg amputated more easily than a tooth filled. Dental relief of any kind is non-existent except in the two large cities of Bombay and Calcutta, due to the free dental clinics attached to the respective dental training institutions. This is a phase of medical relief which has received no attention at the hands of the Government Medical Department. It is needless to point out that medical relief cannot be complete unless dental relief is associated with it.

We understand a member of the new Bengal Legislative Assembly is bringing in a Dental Bill before the House, for the regulation of the study and practice of dentistry. Under the new reforms, the provincial legislatures have great powers and we trust that such an urgently required measure will see the light of day very soon. Bengal, and consequently India, will have dentally advanced a great deal with the passing of such an Act.

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### *Conventions*

THIRTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB,  
SEPTEMBER 22-24.

AMERICAN DENTAL SOCIETY OF EUROPE, PARIS, FRANCE, AUGUST 2-5.

THIRTEENTH GREATER NEW YORK DENTAL MEETING, NEW YORK CITY,  
DECEMBER 6-10.

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*"What is generally called 'ethics' of the profession is but the consensus of expert opinion as to the necessity of such standards."*—Chief Justice Charles Evans Hughes.



# Some Aspects of Infection of the Teeth and Jaws in Relation to General Health

by JOHN W. CLAY, D.D.S., Calgary, Alberta.

**B**EFORE dealing directly with the question of dental foci of infection, I should like to touch on the history of Dentistry. At first thought this would seem to be far away from my subject. It can be quickly shown however, that the action of a few men in Baltimore in the year 1839 had a profound effect, not only on the course of the development of Dentistry, but also upon the subject which I am discussing.

Early in the nineteenth century, attempts were made to repair and replace teeth. By the end of the first third of the century, a mechanical procedure, based on a method of trial and error, and mostly error, had developed in France, England, and to a more advanced degree, in the United States.

In 1839 a group of these men, realizing the need of training and improvement of methods, asked the authorities of the Baltimore Medical College to commence a course of study in Dentistry. This was refused, and so one year later the Baltimore College of Dentistry was founded and it has continued in existence to the present day. As the result of this refusal, Dentistry grew up as a mechanical art, and neither Dentist nor Medical man, with rare exceptions, seemed to be aware for some seventy years that chronic infections in the mouth, had any relation to, or effect on, the general health of the individual. Dentistry became, without the guiding influence of Medicine, a highly specialized mechanical art, with no recognition of the fact, by either profession, that chronically suppurating areas in the jaw-

bones, were common to almost all patients; areas, which would have caused concern and demanded treatment, if located in any other part of the body.

Because of the still somewhat inadequate knowledge of this subject, I propose to give, from the standpoint of the dentist, a short review of infections of the tissues surrounding the teeth, which may have an influence on the general health of the patient. I shall not include disturbances which are symptoms of general ill-health, or the less common diseases, but confine myself to discussing three conditions of local origin:

1. The variety of infections commonly called Pyorrhea.
2. Vincent's Disease affecting the bone and soft tissues of the jaws, and
3. Infection penetrating to the deeper parts of the bone,—through the root canals of teeth, without living nerve or pulp, commonly called root-end or focal infection.

If we accept Dr. Joseph Pollia's definition of a focus of infection as, "a circumscribed mass of tissue that harbors an infection, from which the general system continually receives contributions", we must agree that all three of these conditions are harmful to general health.

## PYORRHEA

Pyorrhea, the common name given to chronic inflammatory processes of the bone and soft tissues, surrounding the teeth, implies of course, the formation and exuding of pus. Several definite types of inflammatory processes may

occur, both hypertrophic and atrophic, which may or may not be accompanied by pus formation. For this reason, periodontitis has been suggested as a more appropriate name for this group of conditions.

Hypertrophic inflammatory conditions are usually accompanied by the formation of pus. A clinical examination of the soft tissue surface of a typical pyorrhea pocket, shows a bleeding open surface against which a variety of well nourished organisms are held in close contact. In one badly infected mouth there are a large number of deep pockets. Such a large amount of infected area, open to absorption, and discharging pus continuously into the alimentary canal, cannot but be objectionable from the standpoint of general health. As a rule, hypertrophic periodontitis responds readily to treatment, provided there is no deep destruction of the bone. Radiographs and a careful clinical examination are necessary and, where suppurating areas cannot be cleared, with a reasonable chance that they will remain healthy, extraction is indicated.

Atrophic destruction of the soft tissues and bone surrounding the teeth, presents a very different clinical picture. Instead of engorged reddish or purplish gum tissue, indicating an enlargement and multiplication of blood vessels, with a tendency towards stasis, there is the opposite picture. The gum tissue is thin, a pale pink in color and, while the periodontal attachment may be broken so that pockets have formed to great depth, with marked loss of bone, the tissue often hugs closely to the neck of the tooth. A superficial examination gives the impression of a healthy mouth, whereas there may be very deep destruction of the bone, though usually only on one side of the tooth. The quantity of exudate is small.

The atrophic types of periodontitis,

probably due to a very limited blood supply, do not respond well to treatment, and relapse occurs much more readily.

This condition must not however, be confused with an equal absorption of soft tissue and bone with no perpendicular pockets in the bone. In older patients, such a picture presents itself, and there is a condition of health, even though radiographs show the bone to be receded so that it may cover only the lower half of the root.

#### VINCENT'S INFECTION

During the latter stages of the Great War, Vincent's Spirochete, and Fusiform Bacillus, which appears to be a morphological variation of this organism, emigrated to Alberta from Europe and points East, and acute attacks of this disease became common. A considerable, and in some cases severe, disturbance of general health resulted. The reason for the sudden introduction of the disease is obvious. Disraeli has stated that at one time in 1918, 22% of the British and French troops in France were infected. Major Wells of the British Army Medical Corps reported that in February, 1918, six hundred men per day were being sent back to England for treatment of the disease.

Treatment and rapidly increasing resistance overcame the disease in most cases, and the mouth tissues returned to normal, except for a considerable loss of supporting tissue, and the loss of some teeth more severely affected. The only permanent effect was the tissue loss, which left these areas much more susceptible to periodontal conditions.

In mouths already affected with periodontal disease, the organisms remained, and as the disease was highly contagious, these germs were spread in time, to large numbers of people.

Since that time a definite change has occurred in the reaction of patients in-

fected by this organism. It has found its way into the mouths of a considerable percentage of the population, meeting new resistance, until now the disease has assumed, in most cases, chronic character. The onset is slower, and is not as a rule accompanied by severe pain. Tissue loss is less rapid. On the other hand, while there is no violent reaction, either locally or systematically, it is increasingly difficult to rid the mouth of the germ. Usually months go by with only a few bleeding points and minute grey sloughing areas, and no discomfort except from intermittent flares-up.

There is no doubt but that these chronic infections have the continuous effect of lowering the general health level and should be eradicated, particularly in the case of patients who are struggling to obtain good health.

These people are also a distinct source of infection to all with whom they come in contact. Vincent's Spirilli are now in many thousands of mouths in this Province, and they appear to have taken up residence here for an indefinite period.

#### ROOT-END INFECTION OR DEEP-SEATED INFECTION OF THE JAWS

In examining for this type of infection, which can occur only following the death of the pulp, we have a different type of problem. There are often clinical symptoms to guide, but in many cases focal areas exist in the bone beyond the apex of the tooth, with no evidence of pathology for either patient or dentist. While radiographs are extremely helpful and often necessary for adequate examination for infection penetrating between the tooth and soft tissues, in the case of root-end infection they are indispensable.

With a complete set of films, which should always include all edentulous spaces as areas equally open to suspicion with the dentulous portions of the mouth, one is prepared to make a diag-

nosis. A short and somewhat incomplete review of this procedure may be of interest.

After a survey of the films has been made, including a study of the general bone condition, each tooth should be examined carefully to decide whether there is infection at the apex of the root or not. In the case of normal healthy tissues, there is a thin dark line next to the root, surrounded by a thin white line and, beyond that, the irregular cancellations of the bone. The first is the readily penetrated peridental membrane and next is the dense layer of bone forming the socket—the lamina dura. Both of these lines should be clearly defined and fit closely to the tooth. If the white line of the lamina dura at the apex of the root has disappeared, ending abruptly as it is followed from the side of the root, it is almost certain that there is an infective condition at the apex. This area, in patients of low resistance is usually small, merging without distinguishable line into the cancellations of the bone. In those of high resistance, the area of absorption of bone is usually occupied by granulomatous tissue. This is sometimes quite small and sometimes of considerable size, and in the latter case usually surrounded by a dense layer of bone which has been built in, in an effort to wall off the infection. The low-resistance type, that without a limiting wall, is much less apparent, but because of free access to circulation, is the more harmful.

One condition which must not be confused with an infective root-end condition, is the hypertrophy of the peridental membrane at the apex, due to excessive use of the tooth or traumatic occlusion. In these cases a widened dark line may show, but a positive result from a test for vitality of the pulp, and the continuity of the lamina dura, though in a

thickened condition, enables one to make a negative diagnosis.

Before leaving the subject of the quest for infection in the deeper part of the bone, I shall mention the importance of a search for impacted teeth, cysts, low grade osteomyelitis, and roots remaining from previously extracted teeth.

Numerous impacted teeth, particularly third molars, which in almost all cases show evidence of infection, and produce in other cases reflex disturbances due to pressure, are discovered. It is important that every part of the alveolar bone should be shown in the radiographs and carefully examined.

Most adult upper molar and bicuspid teeth have only a thin layer of bone between the root-ends and the antrum. After the removal of chronically infected teeth from this area, a blunt probe often discloses the fact that the bone has been destroyed, exposing the lining membrane of the antrum, sometimes having produced acute or chronic infection. These teeth are always a potential source of antral infection.

One group of patients who should be examined with radiographs for dental foci of infection is that class of people who have no remaining teeth and have full dentures in their mouths. This source of infection is sometimes overlooked because there is a healthy surface condition, and no teeth remain.

At the Mayo Clinic, the records show over one-third of these cases to have foci of infection in the mouth. For the purpose of this paper I have made a careful check of 32 consecutive edentulous cases, for which I have taken full mouth radiographs. These examinations were made for patients with some ill-

ness, seeking a focus of infection.

Of the 32 mouths examined only twelve had healthy tissues throughout. Almost two-thirds had one or more areas of infection.

The discrepancy between these two percentages can, I think, be explained by the fact that many of the patients going to Rochester have had previous examinations and treatment.

In the twenty unhealthy mouths there was the following pathology:

- 22 roots—one patient had 4;
- 2 impacted teeth;
- 4 unhealed infected sockets;
- 2 cases of low grade osteomyelitis.

It is no doubt a coincidence, but it is interesting to note that two of these patients with buried roots, suffered from severe *Tic doloireux* of over two years' standing. Both have been free from pain, from a short time following the extraction of the roots and curretting the sockets, up to the present time—a matter of several months. One other patient, not in this survey, but with the same condition, had been in Hospital last spring for some weeks, with very intense and frequent attacks of pain. Complete cessation of pain occurred lasting, to my knowledge, six weeks from the time of the removal of an infected buried root.

These last cases are exceptional, and it also may be that a larger number of edentulous mouths may show a slightly smaller percentage with foci of infection. Nevertheless they do prove the importance of a radiographic check-up of edentulous mouths and all edentulous areas in all mouths, in making a search for foci of infection.



# A Survey of Dental Practice

by WILLIAM G. S. McLENNAN, Mimico, Ontario.

THE times seem to be out of joint and co-operation is needed, not only between nations but between individuals and groups. In order that this co-operation may be attained, it is necessary to have a clear plan of action, a division of labour in the best interests of the public and the application, by each group, of the Golden Rule.

The dentist, by reason of his professional training, has become an oral health specialist. By having just one pair of hands and so many hours per day, he will never make more than a living. If we want the best type of man in dentistry we must see to it that it is possible for him to make more than the minimum amount necessary to subsist. We must co-operate, not for unfair advantage, but for a fair share of the consumer's dollar in order to live as is becoming to a professional man.

## DENTAL DEALER

In many cases our attitude towards the dental dealer has not been kindly to say the least. Here is what one of them thinks of us: "Many dentists look upon the dealer, not as an important part of dentistry and as a friend, but rather as one who is operating a racket. The trouble is that there is not one dentist in twenty who knows his operating costs and what he should charge for services in order to make a fair living. Too many of them think their job is a most lucrative one; a few cents worth of alloy plus a couple of cents worth of mercury and look at the big returns which they think they make! But do they? If they knew more business principles they would not

be practising dentistry at a loss and expecting the dealer to carry them."

## DENTAL TECHNICIAN

The general surgeon performs operations but the technician constructs the braces and makes a fair living. The dental mechanic is deserving also of a fair living even though he holds no recognized status in organized dentistry. The technician permits the dentist to devote all his working time in direct service to his patients. Supply dealers tell me how deeply these technicians are in debt to them. When the banks were pressing the dealers, they put pressure on the laboratory men and found, in turn, that the dentists were not paying the laboratory.

I believe, also, that organized dentistry should require technicians to pass an efficiency test and swear that they will not take impressions. It is grossly unfair that technicians should be improperly paid and thus be forced, due to economic pressure, to practise illegal dentistry. A fair minimum fee should be obtained in order that the dealer, the technician, the assistant and the dentist may all make a living and in order that the dentist may buy trustworthy materials, properly equip his office and pay overhead on his miniature hospital.

Shortly after starting in practice, a laboratory man who had done some work for me said, "I'll take impressions or bites for you any time you are sick or on your holidays. I do it for some other dentists." Some months later he said, "I took an impression, bite, and did all the work and had to hand the big end

over to Dr. So and So." Such practices are obviously unfair to the dental profession, to the public and to the technician as well.

#### THE DENTAL NURSE

One of the greatest helps to any professional man is the nurse. The present course should adequately equip a girl to become office assistant to a medical or dental doctor. Preferably she should have a medical training if she expects to be invaluable to the joint office, the exodontist and the oral surgeon. Considering, however, the salary which most assistants receive at present, we are indeed fortunate in securing such splendid young boosters of dentistry.

The oral hygienist should not be allowed to use this term. It sounds too important. This nurse is a tooth cleaner or a prophylactician and we no longer believe the old fallacy, "A clean tooth never decays." We know only too well that dental sickness has not one, but many causes — factors such as nervous exhaustion, lack of recreation, intemperance, lack of the common decencies of life, insanitary homes, unhappy homes, heredity, intestinal stasis, defective and improper food supply, fevers, infections, worry, etc. If these young women have the right perspective, they can spread the gospel that "one cannot maintain a healthy mouth in a diseased body, neither can one maintain a healthy body with a diseased mouth." Prophylaxis is a help—not a cure-all.

#### THE PHYSICIAN

The dentist should resolve that he will co-operate 100% with his patient's physician, realizing that a healthy body is impossible without a healthy mouth and that sound teeth and gums are impossible without a healthy body. The dentist should treat other medical and dental doctors as professional brothers. Our

work is interdependent. We are in the front rank with preventive medicine. Efficient dentistry means less diabetes, heart lesions, diseased tonsils, gastric ulcers, tuberculosis and contagious disease in the community.

We will, of course, refer the patient to his medical physician for all tonics other than the "food tonics" such as Cod and Haliver oils, etc. No dentist should become a food faddist or foolishly make himself a nuisance to individual medical doctors whose patients happen to consult him about their teeth. The dentist should limit his advice to the advocating of a diet of fresh fruits, vegetables, milk, etc. Just as soon as he prescribes quantities and percentages of protective foods, special diets and refuses to co-operate with the physician, he is laying himself and his profession open to criticism.

#### DRUGS

Dentists would be well-advised to write prescriptions oftener than they do. These are more accurate, more professional and instil greater respect in the minds of the patients who procure what you wish them to procure—not "something better".

Pre-medication and post-medication treatment should be scientifically administered or not used at all. What is prescribed should be recorded on a chart, the dosage, for some drugs, given to a healthy man being greater than that given to a sickly woman. The dosage to children should be administered according to age.

No dentist should be without a hypodermic syringe for use in cases of collapse where oral administration is impossible and time is at a premium. Drugs and dosages given by the Accepted Dental Remedies of the American Dental Association are very reliable.

## ANAESTHESIA

The dentist has a traditional right to give the anaesthetics, which he discovered but he has no right to put a gown on an untrained business girl and permit her to administer the same. It is my opinion that only those should be permitted to give a general anaesthetic who have been specially trained. It is difficult enough to extract some teeth without having the added responsibility of overseeing an anaesthetic administered by some one lacking in special training.

As time goes on, fewer and fewer teeth will be extracted at one sitting. Specialists will administer general anaesthetics, while the dentist in general practice will use local and regional anaesthesia.

## RADIOGRAPHS

The dentists of yesterday charged for the radiographs and the diagnosis in a lump sum. Patients believed that the most important part of the service, the diagnosis — the part which required knowledge, judgment and experience — was free because it was not something tangible and the dentists did not go out of their way to correct this impression. It is little wonder that misunderstanding arose when the professional x-ray photographer took x-ray pictures and the patient went to the dentist for a free diagnostic examination; or even worse, went with a wrong diagnosis and insisted that it be followed by the dentist.

It has been the practice of many physicians to send patients to professional x-ray photographers to have pictures of roots of teeth taken. Wrong angles, double-coated films, insufficient knowl-



*A Study by Violet Keene, Eaton's—College St., Toronto.*

WILLIAM G. S. McLENNAN

edge of oral anatomy have all caused the removal of many healthy, serviceable teeth.

The final interpretation of the radiograph should not be left to the professional photographer. Competent as many physicians are to read x-ray films, they should not order any extractions until the individual case has been discussed with the family dentist.

No conscientious dentist will risk the health of his patient by permitting diseased teeth or decayed roots to remain in the patient's mouth. The dentist, in reading the x-ray, depends upon records, charts, vitality tests, transillumination, thermal reactions, inspection, palpation, percussion, history and questioning, and realizes, or should realize, the value of consultation with the physician.

## DIAGNOSIS

Dr. Weston Price says that dental diagnosis is so intricate and so involved that it requires a greater knowledge of the



human body, its structure and diseases, and of the various means of understanding the normality and abnormality of the same, than any other specialty of the healing arts. Probably no other specialty finds such a great opportunity for extending human life or for preventing injury to humanity as does the highest application of intelligence in this field. A competent diagnostician of local and systemic expressions of dental infections must be familiar with the clinical and structural pathology required for general medical diagnosis and, in addition, be completely familiar with dental anatomy, dental pathology and operative procedure. I submit that to render this service of diagnosis for nothing is ludicrous to say the least.

#### NEED FOR DENTAL SERVICE

Every dental practitioner should be busy, for how great is the need of the people and how few are the number of dentists in comparison. People, however, can find money for everything but health.

The beer parlors and the liquor vendors are thriving and it is they who get the cream. The instalment plan receives the dollar first and so beats the dentist as he tries to make an honest living. We hold in our grasp the key to health for those who seek our advice and are willing to pay a reasonable fee for services rendered. It is my considered opinion that we, as dentists should work up to a standard and not down to a price.

The task that lies plainly before us, as dentistry reorients itself into a profession second in true worth to none, is to take heed from those who made this possible. The late Dr. A. E. Webster, many years ago wrote, "When the stream dams up, deepen and widen it." He also wrote, "Dentistry has always been handicapped by the importance placed upon mechanical procedure." And again, "A profession is based upon its written word; without it no progress can be made." This much beloved and respected teacher had the happy faculty of putting first things first. May we do likewise.

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## *Electro-Coagulation as an Adjunct in the Treatment of Periodontoclasia*

by C. ALVIN SNELL, Toronto, Ontario

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THE treatment of hypertrophied turbinates and infected tonsils by means of a low voltage, high frequency current, has been known to medical science for some time. Its application to dentistry for the removal of diseased gum tissue and the elimination of a periodontal pocket is comparatively new. That it has a definite field of usefulness is amply proven by the experience of those who

have tried it. Emphasis must be placed on the fact that it is not a cure-all. If it is to be employed intelligently, a full understanding of the aetiology and case management of periodontal lesions, as practised by periodontists, is a prerequisite to its use. With these qualifications one has no hesitation in commending it as a valuable aid in treatment.

There are two coagulating units on the



market, one "The General Electric," and the other, "The Rose." The former is the more expensive apparatus, but is considered to be more dependable and of better construction. The latter has the better electrodes. They are of more delicate construction, and being of two different shapes, are more capable of being adapted to various positions in the mouth. It is not, however, a difficult matter to have a connection made so that they can be used with the General Electric Coagulator.

The coagulator is designed to deliver a high frequency current with refined control, so that the operator can accurately manage the coagulatory current in a very small field. The actual electrode contacts are two silver pointed prongs, and coagulation takes place only between

the two prongs, and in immediate adjacent areas. The electrode points are placed in contact with that portion of the gingival tissues to be coagulated, and the foot switch pressed just long enough to bring about coagulation of the diseased tissue. Care is required to avoid over coagulation which would result in unnecessary loss of tissue, and needless suffering on the part of the patient. When used in moderation, no anaesthetic is necessary and after soreness is reported as negligible. The tendency might be at first to attempt too much, but experience will soon enable the operator to determine the extent to which it can safely be used without causing undue discomfort. Thus employed, it can and does make a distinct and successful contribution to the practice of periodontia.

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## *Convention of Ontario Dental Association*

by T. R. MARSHALL, D.D.S., Toronto, Ontario

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THE annual convention of the Ontario Dental Association, held in May each year, has earned the reputation of providing a refresher course in dentistry. The 1937 program was no exception; it was indeed a post-graduate course embracing nearly every phase of interest. Too much praise cannot be extended to those who direct such a meeting. Neither can too much appreciation be extended to the members and guests of the association who gave so unselfishly of their time and talents for the benefit of their fellow dentists. President Dr. Harrold Campbell, of Orangeville, who carried off his duties as master of ceremonies in splendid fashion, may well look back to

his term of office with pleasant satisfaction.

During his address to the convention the President intimated that at all times the Board of Governors was on the alert to keep abreast of the times. Methods of dealing with problems, which a few years ago seemed satisfactory, to-day were quite inadequate. The possibilities of dental health insurance, he believed, needed very careful and thorough study in order to obtain an understanding which would permit proper direction of all interests involved. The question of a national benevolent fund was referred to, but he thought it wise for the O.D.A. to maintain its own integrity in this until the C.D.A. could present a suitable and

comprehensive plan to replace the present one operating in Ontario.

President Campbell made some very fitting references to late Dean Wallace Secombe and his contributions to dentistry; and of the late Dean Albert E. Webster he said, "He was one of the most versatile and valuable members of our profession." To the memory of these men much can be written, but is it not true that dentistry is a nobler profession and we who practice it just a little prouder of our heritage because they have lived?

On concluding his address Dr. Campbell summoned Dr. A. J. McDonagh and presented him with an honorary life membership in the association. Dr. McDonagh was given a great hand as he accepted this well-merited honour which indicated that with the certificate goes the love and esteem of a legion of friends. Congratulations, Dr. McDonagh.

If there was any one thing more apparent than others this year it was the willingness of our own men to help on with the show. Dr. Harvey Reid, President of the Toronto Academy of Dentistry, sponsored an array of 44 table clinics by Ontario dentists. In addition the dental nurses and assistants gave a number of very interesting demonstrations. This session alone was sufficiently valuable to repay one for his visit to the convention without any other program. Here are some things, just mentioned in brief, that the writer saw—

Dr. E. A. Grant showed a motion picture illustrating how the dental service in Toronto schools is conducted.

Dr. Fulton Risdon conducted a question table on fractures. What a wonderful opportunity to discuss one's problems with such an able leader!

Dr. W. J. Kerr was demonstrating how best to surgically remove a labium frenum and do an anterior alveolectomy for immediate insertion of a full denture

—plenty of ideas which work in practice.

Dr. George Morgan, among other things, was showing another system of technique for immediate denture service—

1. Prepare mouth surgically.
2. At same appointment take impression, flow up model and make up Trubase baseplate and insert in the mouth to cover sugarized tissues before patient leaves.
3. On second day provide patient with a vulcanite bite-block to restore vertical dimension and facial contours.
4. Insert finished dentures as early as possible. This method eliminates guesswork in connection with surgery, and gives the patient better adaption and less after-soreness.

From an orthodontic point of view, Dr. George Grieve discussed deciduous molars—their premature loss, too long retention, and also the condition occasionally found where this region fails to continue its vertical development along with the erupting first permanent molars. The cause of this interruption in development is not definitely known, but these teeth will not be shed normally, and should be removed at the normal time of eruption of the bicuspid, providing the latter teeth are present.

Dr. Charles Corrigan had a number of orthodontic suggestions for the dentist in general practice, too. He illustrated a case of a child 8 yrs. 8 mos., with four upper incisors in lingual occlusion that had been brought over by a bite plain of Weston's metal on the lower teeth in seven days' time.

Dr. Jack Trelford had a suggested remedy to relieve painful dry sockets. Grind a "Bayer" Aspirin tablet to a fine powder, mix into a heavy paste with six per cent mentholated vaseline, then mould in shape of a cone. Irrigate the socket with normal saline, dry and insert the paste cone.

Dr. W. D. Bryce, of Zurich, Ontario,

showed his inventive ingenuity by building an electric muffle for glazing porcelain at a cost of \$2.00.

Dr. Gordon Spinks, of Hamilton, had a great assortment for use in visual education. These specimens were cleverly made and were a work of art.

Dr. Frank Martin gave a clinic to a continuously large group on pattern making for inlays. Such practical ideas as are illustrated in such demonstrations as these are invaluable because each new stunt adds to our store of knowledge and increases our efficiency.

Unfortunately the observations of the writer are limited because of the large group of clinicians and the short time available to get around. The foregoing are just a few notes jotted down at a few tables here and there merely to introduce what was being done. The splendid patronage accorded indicated the interest in this type of program, particularly at the opening session.

Among the visiting essayists, Dr. Charles A. Sweet, of Oakland, California, was the first to appear. He dealt with the care of deciduous teeth and the first permanent molar. In preparation of cavities he suggested a minimum of instruments, and do as much as possible with each one before laying it down. Silver amalgam was the filling material of choice in deciduous teeth. In care of the first permanent molar he suggests that all sharp fissures be rounded out and polished if they do not involve the dentine; if dentine is involved, trace out the fissures and insert silver amalgam. His watchword was, "The enamel defect of to-day is the carious cavity of to-morrow."

Following the convention Dr. Sweet conducted a short course in "Dentistry for Children." Those interested in the course were Doctors MacGregor, Higgins, Beddell, Prendergast, Shillington, Markle, Mitten and Fisk. This group later organized the first Canadian unit of

"The Society for Promotion of Dentistry for Children of America." Dr. Ed. Grant is chairman and Dr. Prendergast is secretary.

Dr. E. Bruce Clark, of Uniontown, Pa., addressed the convention on full denture service with particular emphasis placed on aesthetics. In his clinic some splendid suggestions were given regarding staining of porcelain.

Dr. O. C. Applegate, of Ann Arbor, Michigan, gave a splendid illustrated address on the partial denture problem and followed with a lecture clinic for two mornings indicating many splendid suggestions.

Dr. Clarence E. Hill, Toronto oculist, gave an illustrated address on the relation of dental infections to diseases of the eye. Dr. Hill intimated that infected teeth rank foremost in causes of ophthalmic disease. Iritis, a very dangerous disease because of its insidious nature, is caused by dental infections more often than from all other causes put together. Cataracts in young people are in 50 per cent of cases caused by infections of long standing and often that infection is of dental origin. "If eye conditions are at stake," concluded Dr. Hill, "I exhort you to remove all dental infections, even suspected possibilities."

Two mornings of the convention were devoted to group clinics when each of the following men gave a lecture or demonstration lasting one hour:

Dr. A. J. McDonagh—management of the peridental pocket in a simple effective manner:

Dr. J. H. Johnson—local anaesthesia.

Dr. J. N. Stewart—establishing an appreciation for dental service.

Dr. J. Murray Campbell—casting restorations and appliances.

Dr. W. L. Hugill—manipulation and use of silicate in restorations.

Dr. S. M. Richardson—dental radiography.

Dr. R. G. Ellis—The use of copper was demonstrated as a material for indirect inlay dies. The advantages and disadvantages of silver and copper amalgams and electrolytic copper were considered. The construction of a simple plating apparatus was detailed, giving consideration also to the moderate cost of the same, and the simplicity of its use. Because of these features it is felt that this method has a practical value to every general practitioner.

Dr. G. V. Morton—developing and maintaining a dental practice. One of the things stressed by Dr. Morton was the advantages of a dental nurse as practice builder—patient is more at home in the office; two people attract more than one; nurse keeps the office efficient; nurse keeps office clean, neat and tidy which a man cannot do; nurse can render invaluable services in dealing with children.

Dr. G. B. Shillington—calcium metabolism in development of the teeth.

Dr. G. E. French, Niagara Falls—focal infection.

Dr. T. L. Marsh—etiology, treatment and prognosis in prevention.

Dr. W. W. Breslin—electro-therapy applied to dentistry.

Dr. Gordon Frawley—exodontia with patients.

Dr. C. T. Moyle—exodontia with patients.

Dr. Fulton Risdon gave a surgery clinic in Western Hospital.

Dr. George Morgan gave a dental surgery clinic in General Hospital.

Dr. Brock Walker gave an exodontia clinic as conducted for school children in school service.

Dr. J. M. Shultis gave a clinic with patients on analgesia for cavity preparation. Dr. Shultis was demonstrating a new type of nitrous oxide machine designed so that the patient gave himself the anaesthetic by regulating its flow by his own hand. The patient could not get

too much anaesthesia because it was necessary to squeeze a bulb to release a valve which permitted the N<sub>2</sub>O to pass to the inhaler. Dentists with sensitive cavities had preparations made and admitted they were painless.

In connection with the social activities of the convention much praise can be extended to Mrs. Edgar Paul and her committee of ladies—Mrs. G. H. Campbell, Mrs. R. S. Woollatt, Mrs. C. A. Kennedy, Mrs. R. D. Thornton, Mrs. W. G. Trelford, Mrs. R. Dunlop, Mrs. G. V. Morton, Mrs. Harvey Reid, Mrs. J. M. Sheldon, Mrs. W. B. Amy, Mrs. K. R. Harris, Mrs. T. R. Marshall, Mrs. G. V. Fisk and Mrs. J. Harry Reid. This group of ladies planned menus for all luncheons, planned entertainment of out-of-town ladies and arranged details for the president's reception and dance.

This latter function was the social event of the convention. There was an increased attendance from other years and a splendid high-class program of entertainment and dancing provided. During the evening Dr. Sydney Woollatt was installed as the new President of the O.D.A. and presented with his badge of office. Dr. Harrold Campbell was presented with his Past President's jewel and Mrs. Paul was presented with a bouquet of roses as a token of appreciation for the efforts of her committee. The whole party was a grand success much to the pleasure and satisfaction of its sponsors.

Attendance at the convention was 635 dentists, 143 dental nurses and assistants, 180 exhibitors, 95 ladies and 25 students.

And so another convention comes and goes; old acquaintances are renewed, new ideas are presented, old ones revived and given new significance. Good fellowship relieves the daily routine of practice—yes, it can be said a good convention is stimulating and helpful in widening our horizons of service.



# Antiseptics for Use in the Mouth of the Denture Patient

by W. J. PRYOR, D.D.S., Cleveland, Ohio.

(Condensed from the *Apollonian*, July, 1936.)

**I**N serving patients who wear artificial dentures, a few pathological conditions are commonly observed, among them being canker sore, pressure sore, and chronic denture palatitis. This term I prefer to "rubber sore mouth".

The canker sore is probably due to an alimentary disturbance, and not caused directly by the denture. In appearance it is a grayish white spot of sloughing tissue, two to five m.m. in diameter with the surrounding tissue red and inflamed. It is usually found on the floor of the mouth or the mucous membrane lining the cheeks and lips and is very sensitive. The spot is dried and touched with camphorated or thymolized phenol, after which acri-violet, an antiseptic dye, is applied.

The pressure sore or abrasion is usually treated with the dye alone. The dye here serves the double purpose of antiseptic and marker, indicating the exact spot to be trimmed in relieving the excess pressure. The abraded spot is first dried and the dye when applied, penetrates and colours it. The denture is quickly seated and upon its removal a purple spot is seen marking the area to be relieved. Relieving the pressure is of course the essential therapeutic measure here; the antiseptic, however, hastens the healing process. In case the spot is extremely sensitive and resembles the canker, it is first touched with the thymolized phenol to relieve the pain.

Chronic denture palatitis is usually

confined to the hard palate, although the entire surface covered by the upper denture may be affected. The tissue appears red and inflamed and is softer than normal. In extreme cases it closely resembles granulation tissue. It is not at all painful, and very often the patient is unaware of its presence. While it is possible that infection could enter the system through this area it is very evident that the local tissues are affected adversely. The soft tissue becomes spongy and thickened while resorption takes place in the underlying bone.

Filthy dentures worn day and night make first-class incubators for bacterial growth. Those patients who keep their dentures clean and leave them out at night, present a better mouth condition.

Before working with a filthy denture, it is immersed in muriatic or sulphuric acid pickling solution for five or ten minutes. Upon removal from the acid it is scrubbed with a stiff brush and soap powder such as "Gold Dust". The acid treatment is particularly efficient in removing deposits of calculus. As a precaution against breathing in bacteria laden dust at the polishing lathe, while trimming and polishing old dentures the powdered pumice used is made into a paste by the addition of potassium permanganate solution. It is my opinion that the dentist is exposed to common colds and similar infections while handling dentures from all sorts of mouths. Patients are instructed to clean their den-

tures with sodium bicarbonate, sifting the powder on to the denture while wet and vigorously scrubbing with soap and a suitable stiff brush. Strong cleansing soap powders such as "Gold Dust", "Star Soap Powder", etc., are recommended to remove unusual deposits. In no case should a cleaner containing a grit be used.

They are also instructed to thoroughly cleanse and immerse the denture for the night in water to which has been added a few drops of ammonia or one of the chlorine solutions. Bicarbonate of soda solution is preferable to plain water. Under no circumstances, however, use a strong chlorine or acid bath on a denture base of which is silver or a silver alloy, or the acid bath on an aluminum base. This treatment removes the sour taste and characteristic artificial denture odour. A few drops of one of the chlorine solutions in enough water to cover the denture is highly recommended to cleanse, deodorize and to remove stains. If the denture is to be immersed for only a few minutes a stronger solution of the chlorine may be used. Care must be observed if the denture base is of stainless steel or an alloy containing a considerable amount of silver, as the metal will be discoloured by the chlorine. However, the solution can be used in a weak dilution which will not discolour, but at the same time be highly efficient.

The tissues of the mouth take more kindly to a smooth metal denture than to any other I have worked with.

In treating mouth inflammation, a daily application of 1% acriviolet is recommended. The affected area is thoroughly dried, and the dye when applied should penetrate and deeply colour the tissue. Traces of it remain there for as long as twenty-four hours. The patient is instructed to remove the denture at night and part time during the day.

If he cannot be treated often, he may be given some of the solution with directions to paint the palate side of the denture before inserting it. In these cases a new denture is usually indicated and the dye treatment is supplemented by a frequent mouth wash of 2 to 5% alum both for its astringent and its antiseptic action. This solution is a sulphate of aluminum and potassium sometimes called potassium alum, and may be flavoured to render it more agreeable. Several applications of 1 to 1,000 adrenalin solution applied to the area which will be covered by the denture and a slight distance beyond just a few minutes before the impression is taken, is very effective in quickly shrinking soft tissue. In a short time the mouth will be in condition for taking an impression.

To satisfy myself as to which of the dyes are most effective, I had performed a series of experiments. The results showed that the acriflavine-gentian violet combination was by far the most efficient in preventing growth of the different types of bacteria used.

Methyl-violet is also efficient and happens to be the dye used in ordinary indelible or copying pencil, often used about the mouth by prosthetic men in marking areas requiring relief, etc. By dipping an ordinary copying pencil into a drop of water and then into acriflavine powder, a very small amount of this dye is carried back to the solvent. By agitating the pencil point in the solvent a fresh solution of a highly efficient antiseptic is made. This pencil is the applicator I ordinarily use unless the area to be treated is very extensive. The pencil is removed and the end freshened in a sharpener after each using. For external use and for small areas in the mouth no care need be taken as to the strength of the solution since it is impossible to get the solution too strong.

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## AN INTERESTING PROBLEM AND ANSWER

*(Reprinted from the Journal of the  
Michigan State Dental Society)*

*Question 1—Is the use of force permissible in subduing a recalcitrant child? If so, should the parent be informed beforehand of the measures planned and have the option of remaining in the operating room?*

Answer—If a very young child who is not old enough to reason is brought to the office for the treatment of an emergency, force will certainly have to be used if the patient is recalcitrant. If an incorrigible older child comes to a private office and absolutely refuses to co-operate, psychologists back the dentist in his use of force to secure co-operation. The two or three times a year that such an older child comes into the operating room with a bluff, or with a chip on his shoulder or with a "try-and-make-me-open-my-mouth" attitude, which has prevented previous dentists from filling his teeth, will require the use of discipline before any operating can be done. This type of behaviour needs a jar; his bluff must be called; and his chip must be knocked off his shoulder. His dentist seems justified in substituting a more disagreeable stimulus for not having his tooth filled than the stimulus of having his tooth filled co-operatively could possibly be.

Most children's dentists in private prac-

tice concur in the use of the "towel" treatment for such patients. It is quite uniformly effective; the child soon learns that he must co-operate and build up a much better behavior pattern for the dental office; and a patient treated in this manner almost invariably becomes both a good patient and a booster for the dentist.

The parent will have to be told that if she really wants her child's teeth filled, the child will have to learn a certain amount of self-discipline and the only way he will learn it is with his parents out of the room. She is asked to leave, for that is the only way the dentist can secure co-operation, and she is told that the child will not be harmed, but he will learn that he has to assist.

## THE TOWEL TREATMENT

What is known as the "towel" treatment for the management of incorrigible children has been described by Dr. Walter C. McBride and others and has been suggested to the dentist in private practice who gets such children a few times in a year. The patient is seated in the chair, rather roughly if he will not sit down himself. A towel is placed about his neck and the dentist goes ahead as if he expected the usual co-operation of a young patient. If the child begins crying, refuses to open his mouth or goes into some sort of a temper tantrum, he is told that there are two ways to fill teeth, a pleasant way and an unpleasant way. If

he will help, his teeth will be repaired in a pleasant way, if not, in a very unpleasant manner. When he still refuses to co-operate, he is warned that the towel about his neck is going to be placed over his mouth and nose until he does decide to behave and that such treatment will make breathing difficult.

The towel is cupped in the palm of the dentist's hand, placed tightly over the child's mouth and nose and his nostrils closed between the operator's thumb and index finger. In as calm a voice as the operator can assume, the child is told that as soon as he is willing to behave and to help to raise his hand and the towel will be removed. Usually his hand is raised at once. As soon as the towel is removed, however, he starts shrieking and calling for his mother.

The towel is replaced and the dentist states calmly that he is sorry that the child is still unwilling to help but, when he is really ready to do so, to raise his hand again and he will be given another chance. One or two replacements of the towel will usually conquer the most negativistic child.

This management should not be employed with the nervous child, the one who, though frightened, is willing to co-operate, tries to co-operate but simply cannot do so. For the nervous child, a slow re-education is the only method which will develop a co-operative patient. Such a patient will have to be complimented for even poor behaviour, suggestions will have to be made as to ways in which he can improve his behaviour, and very slow and careful operating will have to be employed.

Any dentist who desires a reputation for his ability to manage children is going to be compelled to manage the bad ones along with the average and good

ones. If he expects to earn the fee to which he is entitled, a technique for quickly re-educating the incorrigible patient will have to become a part of his equipment. For such a private practitioner the "towel" treatment is recommended.—*Answered by Kenneth A. Eastlick, D.D.S., Ann Arbor, Michigan.*

*Question II—How would you manage a central incisor in a ten-year-old patient which has one corner broken off to a point where the dentine has a pink tinge but is not actually exposed or bleeding? The patient appeared at the office immediately after the accident.*

When the patient appears with this type of fracture, immediately after the accident, before the pulp has had much opportunity to become infected, the prognosis for a favourable reaction without root-canal work is good. Paint the dentine with phenol, dry, and varnish it with a saturated solution of Canada balsam in natural oil of cloves. Place a little paste of zinc oxide and oil of cloves over the varnish. Trim a celluloid crown-form to fit, puncture each incisal angle to let out any trapped air and fill partly with zinc oxyphosphate cement. Cover the fractured tooth and dismiss the patient for two weeks. If the operator wishes to watch such a case, he may carry the tooth for two or three months under this treatment.

The restoration which we favour, when the observation period is sufficient, is a cast inlay three-quarter crown with cervical labial extensions over the labial enamel. The incisal-labial portion of this crown is removed in the wax to make a window and the window is filled with a silicate cement.—*Answered by K. A. Eastlick, D.D.S., Ann Arbor, in Journal of Michigan State Dental Society.*



# The Forum

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## Presentation Painting

*The painting illustrated above was presented to Dr. C. N. Johnson of Chicago by the Western Canada Dental Society at its biennial convention held in Saskatoon, Saskatchewan, May 31 to June 2. The presentation was made at the complimentary banquet tendered Dr. Johnson on May 31. This painting depicts Murray Point on Emma Lake in Prince Albert National Park in northern Saskatchewan. This is the site of the summer school of art and named after President Murray of the University of Saskatchewan. The painting is by Mr. G. Kenderdine, famous Canadian artist and art director of the University of Saskatchewan.*

## • COMPARISON OF PROCAINE HYDROCHLORIDE AND PROCAINE BORATE (BOROCAINE) AS LOCAL ANAESTHETICS\*

by M. L. TAINTER, M.D.; A. H. THRONDSOHN, D.D.S. and S. M. MOOSE, D.D.S., F.A.C.D.,  
San Francisco, Calif.

(Conclusions of paper in *Journal of the American Dental Association and the Dental Cosmos*, March, 1937)

1. The clinical local anaesthetic efficiency of solutions of 2 per cent procaine hydrochloride and 4 per cent pro-

caine borate (alkaline) was compared in a series of 231 extraction cases, using a "blind test" procedure that eliminated subjective factors. The data were analyzed statistically to determine whether any differences observed were reliable or were the result of chance variation.

2. No differences between the two solutions were demonstrated in the volumes of anaesthetic required or the times for anaesthesia to develop or its duration.

3. The use of procaine borate produced complete anaesthesia in 5 per

\*From the College of Physicians and Surgeons, A School of Dentistry. Supported in part by grants from the Committee on Research of the California State Dental Association and from the Research Commission of the American Dental Association.

cent more of the patients than did that of procaine hydrochloride and its injection was painless in 9 per cent more than was injection of the hydrochloride.

4. There was a statistically unreliable indication that there was slightly less bleeding after the use of procaine borate than after use of hydrochloride.

5. The effects on blood pressure, pulse rate and respiratory rate from the two solutions were practically identical; both causing small average increases in pulse, respiration and systolic blood pressure and a slight fall in diastolic blood pressure.

6. There was a definitely greater incidence of systemic "reactions" with procaine borate; that is, perspiration, nervousness, tremors and fainting occurred almost twice as often as with procaine hydrochloride.

7. Although there were no differences in pain or inflammatory reaction at the site of injection, from use of the two solutions, the undesirable effects in the operative field were definitely less with procaine borate.

8. In view of the facts that solutions of procaine borate must be made fresh and can be sterilized only with special precautions and demonstrated only minor and practically negligible degrees of superiority, but definitely less desirable results as to immediate systemic reactions, as compared with those of procaine hydrochloride, procaine borate, at best, is no more desirable as a local anaesthetic than is the commonly used procaine hydrochloride.

9. Since exactly isotonic and alkaline solutions of procaine borate were not found to be clearly superior to markedly

hypotonic and strongly acid solutions of procaine hydrochloride, the factors of pH and isotonicity seem to have been emphasized beyond their real importance in clinical local anaesthesia.



#### • EMERGENCY TRAY FOR NITROUS OXIDE OXYGEN ANAESTHESIA

I CANNOT stress too strongly the importance of an "emergency tray", conveniently located and containing the following instruments: metal force prop or mouth opener, wooden wedge mouth opener, bakelite or hard rubber screw-type mouth opener, tongue forceps with rubber clamps to prevent undue injury to tongue, metal airway with string or gauze strip attached to upper end to facilitate removal and an extra prop forceps. Many occasions arise when one or more of these instruments must be used.

Another tray suitably covered, or kit, should be made up and kept in a room where it may be obtained quickly. This kit is for emergency drugs and a suitable Luer type glass syringe and needles. The necessary drug ampules and medicines may be wrapped in a sterile towel or other container and kept in the emergency instrument tray, if one prefers. I have been using nitrous oxide-oxygen anaesthesia for several years, without having, at any time, to resort to hypodermic injection, but that may be because I had the necessary armamentarium at hand. It is just when one is not prepared for emergencies, that they arise.—*Excerpt from "Useful Hints on Nitrous Oxide Oxygen Anaesthesia", by Michael Max Rosen, D.D.S., Dental Outlook, May, 1937.*



PRINCE EDWARD ISLAND

SASKATCHEWAN

*Editor*—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S



W. T. Wye, Charlottetown



F. C. Harwood, Moose Jaw

NOVA SCOTIA

QUEBEC

ONTARIO

ALBERTA



A. W. Faulkner, Halifax



F. W. Saunders, Montreal



T. R. Marshall, Toronto



John Clay, Calgary

NEW BRUNSWICK

MANITOBA

BRITISH COLUMBIA



J. F. Edgecombe, Saint John



J. F. Morrison, Winnipeg



J. S. Bricker, Vancouver

## Convention of the Western Canada Dental Society

by C. N. JOHNSON, Chicago, Illinois.

On May 31, June 1 and 2, 1937, there convened in the city of Saskatoon, Saskatchewan, one of the most successful dental meetings that has ever been held in the great Northwest.

The Western Canada Dental Society is made up of members of the profession from several of the western provinces that meet in a joint session every two years at different strategic points as occasion dictates.

This year the meeting was held in the city of Saskatoon, and it is safe to say that there never assembled at any place a more enthusiastic or successful meeting. The exact attendance is not at this moment available, but it must have been fully 300. The good achieved at this meeting cannot be gaged solely by the number present. There was a spirit manifest throughout that was typical of the energy and enthusiasm of the citizens of the prairie provinces.

Several fortunate circumstances contributed to the success of the meeting.

The first was the wholehearted co-operation of the members. There never was a body of men more faithful in the performance of their allotted duties. At the very beginning they threw themselves, with a will, into the single incentive of making the meeting an outstanding contribution to the betterment of dentistry in their own fair land, and they succeeded.

The sessions were characterized by a most encouraging attendance. The essayists and clinicians were sustained in their efforts by audiences that in most instances were packed, and in all cases were attentive. The noonday luncheons were most enjoyable and enthusiastic, enlivened by music and song. Some of the speeches at these luncheons were noteworthy, particularly those by Dr. Uhrich, Minister of Health, on Tuesday, and Dr. G. L. Cameron, on Wednesday. It would be a pleasure to elaborate on these addresses if space permitted. At the banquet Tuesday evening the spacious hall, one of the largest in the hotel, was filled to overflowing, and many were turned away. Contrast this with many similar gatherings elsewhere, and the outstanding character of this meeting must be apparent.

It would be impossible to elaborate on all of the features of the scientific and clinical sessions. Distinguished men, from different sections of Canada and the United States, had been pressed into service by the energetic official force, to contribute their best efforts to the enlightenment and entertainment of the members and visitors.

In addition to the splendid representation from the prominent men of the Canadian profession, there were present such well-known practitioners as James Mark Prime, of Omaha, Edward T. Tinker, of Minneapolis, Roy F. West, of Seattle, and others.

In view of the fact that prevention must ever remain the keynote of our professional ideals it was appropriate that the lecture and demonstration of Dr. Prime on "Pioneering in Prevention" should claim a most prominent part in the proceedings of the convention. Dr. Prime's well-known advocacy of ammoniated silver nitrate as first suggestion by Percy A. Howe, of Boston, for use in children's teeth in the prevention of caries in proximal surfaces, was outlined in detail, and many men witnessed for the first time an actual demonstration of this method. This practice cannot be ignored in any future campaign for the prevention of proximal decay.

The operations of the other clinicians were a credit to our profession, and in particular to the men who volunteered their services in this capacity. The officers who selected them are to be congratulated. Speaking of the officers, a word should be said in commendation of the splendid men who put on this meeting; in fact, very many words should be said. From the President, Dr. Charles W. Parker, and the Secretary, Dr. W. H. Ibberson, down to the most modest member of every committee, the machinery of the meeting was made to function with precision and unusual perfection. Dr. Parker presided at the sessions with decorum and a gracious command of the situation at all times. Dr. Ibberson, on whose shoulders had fallen the chief burden of preparing for the meeting, was always available for any service that called for



consultation and direction; and the smooth functioning of the entire proceeding was largely due to his foresight and devotion. Too much cannot be said in commendation of these splendid men.

The ladies were in attendance in full force, to grace the occasion, and much of the attractiveness of the meeting was due to this fact. The ladies of the Northwest, in fact the ladies everywhere, always lend colour and brilliance to any dental gathering.

The magnificent environment in which the convention was held was another feature of the meeting which contributed greatly to the comfort and enjoyment of everyone present. The Bessborough Hotel was a revelation to everyone who saw it for the first time. Luxurious in the extreme, it was a superb example of the best there is in hotel achievement. The word elegant has frequently been used with exaggeration in describing convention hotels, but there is no other word that can adequately describe the Bessborough. From the manager down to the smart bell boys and the entire staff everything was done for the welfare and convenience of those who came to Saskatoon. The local members of the society devoted themselves unselfishly to the entertainment of the visitors and anticipated every want.

The meeting as a whole was a pronounced success, and the event will go down in the history of organized dentistry in Canada as one more important milestone in professional progress.

*It is with unusual pleasure that we turn over the editorial space in this issue of the Journal to our beloved confrère, the distinguished editor of the Journal of the American Dental Association. Dr. Johnson was the guest of honour at the Convention of the Western Canada Dental Society, and a complimentary banquet was tendered him. At this function he was presented with an oil painting by the Society, a reproduction of this picture appearing in the Forum Section of this Journal. Dr. Johnson travelled 1,500 miles to attend this gathering at the urgent request of the officers in charge, in order to bring a special message of inspiration to the dentists of Western Canada. His address, so pregnant with idealism and wisdom, will long be remembered by those present.—Editor.*

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## CORRESPONDENCE

May 13th, 1937.

To Dr. W. E. Willmott, Toronto,  
(copy received by editor).

Through the generous response to the appeal for funds for the memorial to the late Dr. Guy G. Hume, the committee after the erection of a suitable bronze memorial tablet in the Faculty of Dentistry Building, had a small surplus.

Up to the present, no appropriate occasion

has arisen for the disposition of these funds. However, with the establishment of the Webster-Seccombe Memorial Fund is provided a fitting opportunity for their disposal.

On behalf of the Committee, therefore, may I ask you to accept the enclosed cheque to be applied equally towards the two scholarships.

With best wishes

Yours very truly

(Signed) W. G. Trelford.

## NEWS FROM THE PROVINCES

### SASKATCHEWAN:

#### Western Canada Dental Society

One of the most profitable conventions ever held in Western Canada convened at Saskatoon May 31 to June 2, about 250 dentists being registered.

The Western Canada Dental Society, which comprises the dentists of Alberta, Saskatchewan and Manitoba, holds a convention every two years, meeting in alternate provinces.

There were several prominent speakers from the United States including Dr. C. N. Johnson, of Chicago; Dr. James M. Prime, of Omaha, Neb.; Dr. Edward T. Tinker, of Minneapolis, Minn., and Dr. Roy F. West, of Seattle, Wash. The following well-known Canadians also took part—Dr. H. J. Merkeley, Winnipeg, Man.; Dr. W. J. Gibson, Victoria, B.C.; Dr. W. Fraser Smith, Regina, Sask.; Dr. Tyler; Dr. R. H. McDougall, Moose Jaw, Sask.; Dr. W. R. Watchler, Yorkton, Sask., and Dr. W. Hancock, Regina, Sask.

On Monday noon a complimentary luncheon was held for Dr. C. N. Johnson, of Chicago. On Tuesday noon Dr. Ulrich, Saskatchewan Minister of Health, gave an address. At the Wednesday luncheon Dr. George L. Cameron, of Swift Current, gave an account of the trip of the Canadian Delegation to the Empire Convention in London.

Many of the wives of the dentists were in attendance and were most royally entertained by the ladies of Saskatoon.

The following officers were elected: President, Dr. H. J. Merkeley, Winnipeg; 1st vice-president, Dr. J. M. Dickson, Calgary; 2nd vice-president, Dr. Paul Winthrop, Saskatoon; secretary, Dr. C. D. McLeod, Winnipeg; treasurer, Dr. C. H. Moore, Winnipeg; historian, Dr. H. J. Merkeley, Winnipeg.

The next convention will be held in Winnipeg in 1939.

#### Western Canada Dental Assistants' Association

The dental assistants representing Western Canada met in conjunction with the Western Canada Dental Convention May 31 to June 2 at the Bessborough Hotel, Saskatoon, Saskatchewan.

At a business meeting held June 1, a motion was passed to the effect that the dental assistants of Alberta, Saskatchewan and Manitoba

organize for Western Canada and that they hold their convention every two years at the same time as the Western Canada Dental Convention.

A very fine program was planned by the Saskatoon dental assistants for the three days' convention in Saskatoon. We were most fortunate in having Dr. C. N. Johnson, Chicago; Dr. James Mark Prime, Omaha, Nebraska, and Mr. E. Rogers, Vancouver, with us and every dental assistant present received inspiration and a greater determination to study and improve her ability to better serve the profession in which she is engaged.

The officers for the Western Canada Dental Assistants' Association are as follows: President, Miss V. Geddes, Winnipeg; vice-president, Miss P. Mayhood, Calgary; secretary-treasurer, Miss V. Busby, Moose Jaw.

### MANITOBA:

#### Western Canada Dental Society

Approximately thirty-five members of the Manitoba Dental Association attended the biennial meeting of the Western Canada Dental Society at Saskatoon. The lovely new Canadian National hotel, the Bessborough, was taxed to capacity to accommodate guests attending the convention. The architect who designed the hotel must have had the requirements of a dental convention in mind. This necessarily includes space to prominently exhibit the equipment and supplies of the firms ministering to the needs of the profession and the beautiful restorations of the dental laboratories.

The management committees in charge of the convention are to be congratulated for the completeness of detail in arrangement which properly included sufficient time for viewing the well-set-up exhibits.

### ONTARIO:

#### Officers of Royal College of Dental Surgeons

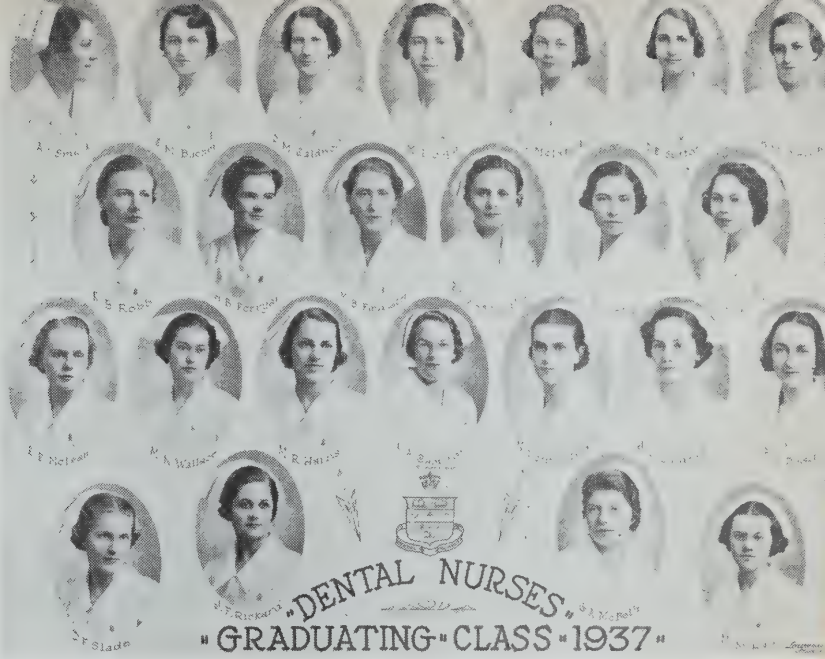
At the annual session of the Board of Directors of the R.C.D.S., held the end of May, the following officers were elected:

President—Dr. E. C. Veitch.

Vice-president—Dr. W. H. Woodrow.

Registrar—Dr. L. D. Hogan.

Secretary-treasurer—Dr. W. E. Willmott.



### Graduates of Course in Dental Nursing

The diplomas in Dental Nursing were awarded by the University of Toronto to the successful members of this year's class on Wednesday, June 9, in Convocation Hall.

The twenty-three young women selected from the applicants for this course had standing on admission of at least Pass Matriculation, and, in addition, most of them had several papers of Honour Matriculation. They were also chosen for apparent personal qualities which would make them suitable for dental nurses. They have been in attendance one academic year in the Faculty of Dentistry, and have taken courses and had practical work in the following subjects as they relate to dental nursing: elementary bacteriology, dental anatomy, drugs used in dental practice, ethics, jurisprudence and economics; first-aid and hygiene; oral hygiene; principles of accounting, typewriting; radiography, ceramics; dental surgery, prosthetic and operative dentistry assistance; and clinical practice. After completing the course in principles of accounting, the dental nurse is well equipped to take care of the records and accounts, and should be able to soon adjust herself to any system which may be in use in the particular office.

Lectures are given by regular members of the Faculty, and practical experience is gained in the various departments throughout the dental building, and in laboratory classes. The curriculum is carefully surveyed each year and changes made which are thought will improve the course.

### Graduating Class in Dental Nursing, University of Toronto

The young women graduating have received good training in the fundamentals of dental nursing, and when accepted for positions in private dental offices should be able to adapt themselves to the particular methods of the individual dentist in a short time.

With improved general conditions, dentists might do well to seriously consider trying the services of a dental nurse as soon as their practice warrants it, so that they may be relieved of many details and be able to devote their undivided attention to the actual practice of dentistry.

Any dentist desiring further information regarding the following dental nurses available for positions please communicate with the Dean's Office, Faculty of Dentistry, University of Toronto—telephone: KI. 0012.

#### '37 Class in Dental Nursing

|                        |       |                |
|------------------------|-------|----------------|
| Bucher, Miss C. M.     | ..... | New Liskeard   |
| Caldwell, Miss D. M.   | ..... | Durham         |
| Cowling, Miss A. M.    | ..... | Toronto        |
| Dolson, Miss R. C.     | ..... | Toronto        |
| Findlater, Miss M. B.  | ..... | Toronto        |
| Forryan, Miss H. B. G. | ..... | Chauvin, Alta. |
| Gwyn, Miss M. L.       | ..... | Toronto        |
| Hall, Miss M. M.       | ..... | Toronto        |
| Harris, Miss M. R.     | ..... | Toronto        |
| Kilbank, Miss E. A.    | ..... | Belleville     |
| Leng, Miss M.          | ..... | Schumacher     |
| Lindsay, Miss J. L.    | ..... | Toronto        |
| McBeth, Miss G. A.     | ..... | Ingersoll      |

|                            |                  |
|----------------------------|------------------|
| McIntosh, Miss L. L.....   | Fort William     |
| McLean, Miss E. E.....     | Toronto          |
| Rickard, Miss J. F.....    | Newcastle        |
| Robb, Miss K. B.....       | Regina, Sask.    |
| Slade, Miss D. F.....      | Toronto          |
| Smuck, Miss A. I.....      | Stoney Creek     |
| Sutherland, Miss N.....    | Toronto          |
| Sutton, Miss D. E.....     | Toronto          |
| Wallace, Miss M. N.....    | Toronto          |
| Washington, Miss E. E..... | Saskatoon, Sask. |

#### **Officers of Ontario Dental Association**

The following officers of the above association were elected at the recent convention held in Toronto: Honorary president, Dr. G. Harrold Campbell, Orangeville; president, Dr. R. S. Woollatt, Toronto; vice-president, Dr. J. N. Stewart, Hamilton; historian and archivist, Dr. E. W. Paul, Toronto; secretary-treasurer, Dr. Fred J. Convoy, Toronto.

Other members of the Board of Governors are Dr. Robert Dunlop, Toronto; Dr. I. Lee Honey, Timmins; Dr. G. V. Morton, Toronto; Dr. R. C. McCutcheon, Highgate; Dr. R. E. Sparks, Kingston, and Dr. Fred Williamson, Hamilton.

Benevolent Committee—Dr. H. S. Learoyd, Sutton; Dr. F. L. Henry, Oshawa, and Dr. C. A. Kennedy, Toronto.

Public Dental Health Committee—Chairman, Dr. M. A. Ross Thomas; secretary, Dr. Frank Martin; committee, Doctors E. A. Grant, E. T. Guest, R. D. Thornton and J. S. Lapp.

#### **Dr. Stephen A. Moore Addresses Lions Club**

At the fortnightly dinner of the Seaforth Lions Club on May 10, Dr. Stephen A. Moore, of London, Ontario, gave an illustrated address on the development and defects of teeth, stressing especially the importance of children's dentistry.

Members of the dental profession were present from London, Goderich, Clinton, Mitchell, Exeter and other neighboring centres.

#### **\$93,000 Estate**

Dr. James E. Taggart, prominent Ottawa dentist who died March 29, left an estate valued at \$93,613.18.

#### **Essex County Dental Association**

Dr. Bernard E. Luck, of Lansing, Michigan, addressed the above Association, May 28, on "Oral Surgery Hints for the General Practitioner."

#### **Ladies' Committee of the O.D.A.**

The Ladies' Committee of the O.D.A. demonstrated just what an asset such a group can be to a convention. The functions provided for the entertainment of out-of-town ladies proved to be most enjoyable. The tea and bridge arranged for the evening of the first day had an attendance of nearly one hundred ladies. An unusual and very interesting feature of this party was Mrs. C. A. Corrigan's address on her trip to Vimy. Mrs. Corrigan's war experience as a nurse was a fitting background for her story of a visit back to France. Such occasions as this give the ladies an interest in our convention because it makes them part of it.

The Coronation luncheon held at the Granite Club was quite a novelty. Each guest was given a small announcing spoon, a replica of the original, as a favour. After luncheon everyone played bridge while the men folk played golf.

It is to be hoped the Ladies' Committee will carry on this splendid work of planning a program for our visiting ladies and that more of the dentists will bring their ladies along to our convention.

#### **Public Dental Health Committee**

The personnel of the Public Dental Health Committee of the Academy of Dentistry, Toronto, for 1937-38 is as follows: President, A. E. Higgins; secretary-treasurer, W. M. Twible. Committee chairmen—Welfare, T. R. Marshall; education, T. L. Marsh; industrial relations, G. T. Mitton; dentistry for children, G. V. Fisk; hospital, George Morgan. General committee—W. J. Kerr, S. A. MacGregor, H. D. Leuty, J. J. Armstrong, F. H. Shepherd, Cameron Adams, J. Kreutzer, W. W. Breslin, W. K. Prendergast and Gordon Shillington; representatives from Academy Council, Harvey Reid and H. W. Hoag; O.D.A. and P.D.H.C. of O.D.A., Sydney Woollatt and Ed. Guest, respectively; Department of Health, City of Toronto, Ed. A. Grant; City Council, F. J. Conboy; Public Dental Clinic, W. H. Reid.



### **Toronto Dental Nurses Alumnae Association**

The regular monthly meeting of the Toronto Dental Nurses Alumnae Association was held at the Granite Club on Wednesday, May 19, 1937. On this occasion the association entertained in honour of the Graduating Class of 1937. Coronation colours were carried out with a very attractive crown forming a centre-piece at the head table and pretty bouquets of flowers on each of the other tables. President Miss Nan Braidwood welcomed the guests and extended a hearty vote of thanks to Dr. Kennedy who made it possible for the association to again have its annual dinner at the Granite Club. Miss Peggy Appleton proposed the toast to the Graduating Class, to which Miss Norma Sutherland replied on behalf of the class. Miss Rosemary Griffin proposed the toast to our Alma Mater and Miss Anna Lindsay responded.

### **Ontario Dental Nurses and Assistants' Convention**

At the annual convention of the above association, held in Toronto in May, the following officers were elected: President, Mrs. Marion Edwards; president-elect, Miss Loretta McCaughey, London; vice-president, Mrs. Fern Leech Cook, Windsor; secretaries, Miss Lverna Rae, Hamilton and Miss G. Kidner, Hamilton; treasurer, Miss Elizabeth Hogan, Toronto.

### **QUEBEC:**

#### **Dr. E. Charron Honoured**

Dr. Ernest Charron, secretary of the faculty of dental surgery of the University of Montreal and delegate for the province of Quebec to the Canadian Dental Association, has been elected president of the Cercle Universitaire.

### **French-Speaking Congress**

The Third Congress of French-Speaking Dentists of North America opened May 28 in Montreal with 450 dentists in attendance.

### **Mount Royal Dental Society**

On Saturday, May 1, the members of the Mount Royal Dental Society were treated to an interesting afternoon and evening session

when Dr. Jacob B. Schnee discussed the various aspects of "Root Canal Therapy."

Dr. Schnee is a practitioner in New York and has spent more than twenty years doing root canal work as one of his chosen hobbies. During this time he has accumulated a vast fund of information, as well as numerous case histories, x-rays, study casts, etc. It was therefore gratifying when Dr. Schnee gave a table clinic in the afternoon showing the methods and procedure he uses in filling root canals. The various instruments, medicaments, etc., proved to be of more than usual interest.

During the evening session which followed an informal dinner, Dr. Schnee showed a series of interesting radiographs on the screen. These films, depicting the pre- and post-operative phases of root canal therapy, proved of most unusual interest.

A delegation of representatives from the Mount Sinai Dental Society of Toronto were guests at this meeting.

At a special meeting held for the express purpose of hearing him, Dr. George Cameron addressed the Mount Royal Dental Society on Monday, May 10, in the Mount Royal Hotel, selecting as his topic "A Method for the Accurate Recording of Centric Jaw-Relationship." Dr. Cameron gave, in a very clear and concise manner, his original technique for obtaining "centric" bites.

The speaker supplemented his address by demonstrating his technique on study casts.

An open forum followed and Dr. Cameron answered numerous questions.

The Annual Dinner and meeting for the election of officers was held on Saturday, April 10, 1937, in the Mount Royal Hotel.

The officers elected for the session 1937-38 were: President, Dr. A. S. Solomon; vice-president, Dr. G. Franklin; secretary, Dr. J. R. Persk; treasurer, Dr. C. I. Finkelstein; assistant secretary-treasurer, Dr. P. J. Gitnick; librarian, Dr. A. L. Scherzer; ex-officio, Dr. M. H. Tocker. Executive committee—Drs. J. Rubin, F. Mendel, L. S. Eidinger, B. J. Hyams and I. N. Pesner.

### **Montreal Dental Nurses and Assistants' Association**

The above association held a general meeting in its club rooms May 18. Miss Phyllis

Bender, clinic convenor, occupied the chair. The meeting was called for the purpose of discussing plans for the Thirteenth Annual Fall Clinic, taking place September 22-24. It is the intention of the members to exert a special effort this year to make their contribution to the Annual Fall Clinic outstanding.

#### **NEW BRUNSWICK:**

##### **Dental Convention**

The New Brunswick Dental Society held its annual convention in the Admiral Beatty Hotel, Saint John, July 5-6. The clinicians were Dr. S. Stuart Crouch, orthodontist of Toronto and immediate past-president of the Toronto Academy of Dentistry; Dr. Karl W. Knapp of the staff of Columbia University, N.Y., on gold castings and Dr. Frank W. Rounds, internationally known exodontist from Boston, Mass., and president of the Massachusetts Dental Society.

#### **BRITISH COLUMBIA:**

##### **Vancouver Dental Society**

Dr. Ryan, Mount Vernon, Washington, was the guest speaker at the Vancouver Dental Society Meeting. By means of a film and table clinic he showed different techniques of inlay and bridge restorations.

##### **Washington State Meeting**

Many practitioners of British Columbia attended the Washington State Meeting at Bellingham, Washington, a three-day session. All received inspiration from both the papers and clinicians, particularly Dr. Geo. Hollenback, of Los Angeles and Dr. I. M. Prime, of Omaha, Nebraska.

##### **Webster-Seccombe Memorial**

The organization of the A. E. Webster and Wallace Seccombe Memorial is completed and our appeal for this worthy cause is looked forward to, with favourable results. In spite of the greater number of our members being graduates of other colleges, still for such a worthy cause in the advancement of Canadian dentistry, we, as Canadian citizens, will do our bit to honour such outstanding Canadian citi-

zens and dentists whose lives were such an inspiration in the advancement of our chosen work.

##### **Health Insurance**

The Health Insurance Plebiscite, "Are you in favour of a comprehensive health insurance plan, progressively applied?" received 21,000 majority, but the general opinion is that this is not enough for the present bill to be enforced, but there is no doubt that health insurance will be enforced before many years. The Honourable Dr. Weir, Provincial Secretary and Minister of Education, who was its sponsor, together with all the Pattullo Cabinet, Liberal, were re-elected. Dr. Frank Patterson, M.D., Conservative, will be the leader of the Opposition, ably supported by Mr. R. L. Maitland. Mr. Maitland is counsel for the College of Dental Surgeons of B.C.

##### **Ferrier Gold Foil Club**

Dentists from various points along the Pacific Coast met at the Empress Hotel, Victoria, in May to attend a conference of the B. C. Ferrier Gold Foil Club.

##### **Victoria Dental Society**

The Annual Meeting of the above Society was held May 18th at the Jubilee Hospital. Dr. S. F. Miles demonstrated a new micro-surgical unit and its application to Webb's pyorrhea treatment.

The following officers were elected for the ensuing year: President, Dr. P. J. Rumball; president-elect, Dr. J. E. Gee; secretary-treasurer, Dr. J. D. Johnson. The following were elected as members of the executive: Doctors S. F. Miles, W. N. Gunning and J. C. Foot.

#### **ALBERTA:**

##### **Edmonton Dental Assistants**

The following officers were elected at an organization meeting of the Edmonton Dental Assistants: President, Mrs. A. P. Dodds; vice-president, Miss Jean McIntyre; secretary, Miss Isabel Stewart; treasurer, Miss M. Hunter; social convenor, Mrs. George Downes.

About 20 enthusiastic members discussed plans for the coming season.

### **Alberta Dental Association**

The annual meeting of the Alberta Dental Association was held in Calgary at the Palliser Hotel on July 2 at 9 a.m.

The meeting of the Board of Directors was held on the following day.

### **Western Canada Dental Society**

About forty Alberta dentists attended the meeting of the Western Canada Dental Society in Saskatoon, May 31 to June 2. All re-

turned with memories of happy reunion with old friends, most cordial hospitality and a splendid convention.

Dr. E. R. Upton returned with a cup about as large as himself representing his prowess at golf.

### **Resolution**

At a recent meeting of the Edmonton Dental Society a resolution was passed making the Journal of the Canadian Dental Association its official organ.

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## **EMPIRE NEWS**

### **GREAT BRITAIN:**

#### **Killed by Disc from Denture**

Arthur Moore, aged 49, street trader of London, was seated on a bed in Archway Hospital, Highgate, when he swallowed a small rubber disc which came off the palatal aspect of his denture. He collapsed and a quarter of an hour later died of asphyxia.—*Daily Express, London.*

#### **Suicide Over Dentures**

Worried about her looks, which she said had been spoiled by false teeth, Mrs. Stannard, aged 58, wife of the assistant headmaster of the Essex School for Boys at Chelmsford, hanged herself in the school gymnasium.—*Glasgow Evening News.*

### **AUSTRALIA:**

#### **Proposed Course for Dental Technicians**

With the object of inaugurating a course for dental technicians at the Sydney Technical College, the Australian Dental Association, N.S.W. Branch resolved to co-operate with the Technical College in establishing classes for the training of dental technicians and that the association contribute a sum not exceeding £100 per annum for a period of three years for the purpose of creating five competitive bursaries of £20 each for students unable to pay for training.

It was also resolved that a letter be sent to the Minister of Education urging him to

establish classes for the training of dental technicians, pointing out the need of such trained men and the advantages of absorbing youths properly trained in this vocation.

### **SOUTH AFRICA:**

#### **National Health Insurance**

The Committee of Enquiry appointed by the Minister of Public Health, has published its Report. The Committee was composed of five members, two of whom were medical men.

The majority report expresses the view that the time is not yet ripe for a State medical service in this country; but a scheme of insurance embracing medical, maternity, funeral and sick-pay benefits applicable to employees in the urban areas of the Union could be successfully instituted and should be instituted as early as possible.

Under the heading of *Dental Benefit* the report says:—

"Although dental benefit is often regarded as distinct from medical benefit, it will be convenient to discuss it in this chapter [Medical Benefit] in which the scope and extent of medical services, as a whole, under an insurance scheme is being dealt with.

"In thirteen countries, dental treatment is an integral part of the medical assistance granted to insured persons; in other countries with compulsory insurance systems the funds voluntarily take steps to organize dental treatment.

"In countries where medical attention is

given to insured persons by practitioners remunerated on a capitation basis, dental treatment does not usually fall within the range of the services required from them, though measures for the relief of pain and possibly simple extractions would fall within the agreed terms of service. Under the British scheme the criterion is custom: if the doctor is a country practitioner and is in the habit of providing dental treatment to his private patients, he may not refuse the same treatment to insured persons. In Britain, dental benefit is said to be the most popular of the additional benefits which approved societies with available surplus funds are allowed to provide; we understand the benefit is usually limited to extractions and the supply of the cheaper form of dentures.

"The Dental Association considers that a dental benefit is essential in a health insurance scheme and should be a statutory benefit; that the minimum service under the scheme should be the alleviation of pain, the removal of oral sepsis and all necessary conservative treatment and preventive treatment in the young; that so far as the urban areas are concerned an efficient, well supervised dental health service could be established without difficulty; that there should be free choice of dentist by insured persons; that the Dental Association is in a position to enter into a contract with an insurance fund and to control the service;

that remuneration to the dentists should be on the fee per operation basis and that as in Great Britain authorities agree that payment on a capitation basis is impossible, so the Association thinks that payment on a capitation fee basis would also be impossible in South Africa.

"In his verbal evidence, Dr. Bird informed us that he understands that the minimum cost of a general dental benefit has been estimated by some approved societies in Great Britain at 6s. 6d. per member per annum and that in South Africa the cost would probably be slightly higher.

"The New Zealand Government Committee, to which reference is made in paragraph 18, estimates the cost at 7s. 6d. per insured person.

"For the Union the matter seems to be mainly a question of cost; from the evidence furnished to us it seems clear that the service could be provided forthwith for the urban areas and that, with the existence of the Dental Association, control of the service would not be a matter of any difficulty.

"We are of opinion that a dental service is a very desirable adjunct to a medical service under an insurance scheme and that it should be instituted at an early stage after experience of the running of the scheme, including the finances, has been gained."—*South African Dental Journal*, April, 1937.

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## IN MEMORIAM

**Oscar I. Cunningham**—of London, Ontario, aged 63, died in June. Dr. Cunningham was stricken with a heart attack in New York City while returning from a visit in Virginia. He was able to return home but died a week later.

Dr. Cunningham graduated from the Chicago College of Dentistry and the Royal College of Dental Surgeons, Toronto. He retired from his profession a year ago following 35 years of active service.

He was four times alderman of the City of London, chairman of the Works Committee and member of the Board of Health. He was a member of the Masmic Order and was interested in city sport activities.

Surviving are his widow, one son, three brothers and a sister.

■  
**J. Stanton Rockwell**—of Kentville, Nova Scotia, died May 29, following a lengthy illness. For more than 35 years he practised in this country. He graduated in 1901 at the University of Maryland in Baltimore. He was a charter member of the Rotary Club of Kentville and the Kentville Hospital Commission.

In addition to his dental practice he retained an interest in farming, owning and operating a large farm at Canard.

He is survived by his wife, two daughters and one sister.



## . . . SECTION FRANÇAISE . . .

Rédacteur.

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## Editorial

Le temps des vacances est théoriquement le temps du repos. Or, ces années-ci, seuls, ceux à qui il reste encore quelque fortune peuvent se payer d'agréables loisirs pendant les chaleurs.

Notre journal, sans fortune, doit donc se passer de vacances et paraître chaque mois.

Cependant la rédaction a pensé que pour juillet et août nous pourrions omettre les articles de caractère scientifique.

Nous en profitons donc pour publier le rapport du dernier congrès des dentistes de langue française d'Amérique du Nord tel qu'a bien voulu nous le transmettre le docteur A. L'Archevêque, le secrétaire.

# Compte-rendu du troisième congrès des Dentistes de langue française de l'Amérique du Nord

*tenu à Montréal, les 27, 28 et 29 mai 1937*

Jeudi, le 27 mai 1937

LA SEULE présence de plus de 300 délégués, plus une centaine de dames, assure d'ores et déjà à ce congrès un plein succès; ceux-ci viennent de la province de Québec, de l'étranger et l'on note une forte délégation franco-américaine.

Le programme est fort chargé; et comme le congrès coïncide avec la réunion des Anciens de l'Université de Montréal, les manifestations diverses qu'il comporte prennent l'allure d'une fraternelle réunion dont la cause universitaire bénéficiera.

Le congrès s'est ouvert à 10½ heures sous la présidence du Dr Denis Forest. Il en profita pour inviter Mgr O. Maurault, recteur de l'Université de Montréal, à prendre la parole.

Mgr O. Maurault: . . . Malgré les multiples occupations qui lui incombent aujourd'hui, le recteur avait tenu à inaugurer le congrès; ses paroles éloquentes devant les anciens diplômés, prirent une signification toute spéciale.

"Vous vous réunissez, dit-il, au sein de votre Alma Mater, d'où vous partîtes, un jour, pour la grande aventure de la vie. Vous y revenez pour faire une rétrospective de l'oeuvre accomplie, et vous trouvez votre Université dans l'état que vous connaissez, hélas! aussi bien que moi. Je voudrais aujourd'hui, en cette occasion inspiratrice, vous demander d'être des propagandistes ardents, afin qu'une opinion publique favorable à notre cause, soit formée. La solidarité, voilà le mot d'ordre; nous en avons besoin plus que jamais; la minute n'a jamais été aussi grave, et plus que jamais, il faut que chacun fasse sa part. A vous, nous demandons d'être les apôtres de l'idée de la survivance de la vie universitaire. Qui d'entre vous se refusera à cette tâche?"

Ces paroles du recteur furent frénétiquement acclamées; l'instant d'après, le doyen de la faculté de chirurgie-dentaire, le Dr Eudore Dubeau, devait dire jusqu'à quel point la minute est grave pour l'université.

Dr Eudore Dubeau: . . . Mon premier devoir est de saluer ici la présence de Monseigneur le Recteur et de lui offrir nos sincères félicitations à l'occasion de son élévation au rang de prélat domestique, par Sa Sainteté le pape Pie XI.

Cette nomination n'a surpris personne, car nous l'attendions depuis longtemps, et en dehors du fait que le dévouement de Mgr Olivier Maurault à la cause universitaire le qualifiait hautement pour cette récompense, ce geste de l'autorité religieuse est bien propre à jeter un grand lustre sur l'Université de Montréal.

Messieurs les congressistes; Au nom de la Faculté et aussi en mon nom personnel, je suis heureux de vous souhaiter la bienvenue la plus cordiale et de vous exprimer notre grande satisfaction de vous voir réunis à l'Alama Mater.

Aux organisateurs de ce troisième congrès des dentistes de langue française de l'Amérique du Nord, je veux dire toute notre reconnaissance et notre admiration pour le beau et grand travail qu'ils ont accompli. Je les ai vu à l'oeuvre, j'ai assisté quelques fois à leurs délibérations, conduites avec ordre et fermeté sous la direction du Dr Forest. Je n'ai pas de doute que tous vous serez satisfaits du résultat obtenu.

Inutile d'insister sur l'importance et les avantages qui résultent de ces réunions au point de vue scientifique et social. D'abord cela vous permet de vous tenir au courant des développements de notre profession et d'y

apprendre quelque chose qui vous rémunère de vos frais de déplacement, et ensuite cela vous procure le plaisir de resserrer les liens d'amitié qui doivent exister entre les anciens d'une même faculté.

L'an dernier, nous avons inauguré la journée des anciens, qui aura lieu chaque année entre les congrès et nous espérons vous y voir en grand nombre chaque fois.

Il est peut-être intéressant que je vous dise que durant ses trente-trois années d'existence notre Faculté a décerné 606 diplômes de docteurs en chirurgie dentaire, répartis comme suit: 535 à des étudiants de la province de Québec, 45 à des Européens et 26 à des étudiants des autres provinces du Canada.

Cela m'amène à vous dire quelques mots de notre université puisque nous en faisons partie intégrale et que notre existence future dépend de la sienne.

Notre université, Messieurs, est financièrement bien malade, elle est même à l'agonie. Malgré cela, grâce au dévouement des professeurs, elle progresse, elle va de l'avant. Les professeurs travaillent dans le marasme et se demandent ce que demain leur réserve. Et de fait, ils commenceront lundi leur quatrième mois sans être payés, ni eux, ni les employés ni les fournisseurs, qui eux aussi ont été bien patients, mais la patience a des bornes et celle des fournisseurs est épuisée.

Si je vous dis ces choses, c'est que nous comptons sur vous pour nous aider, par votre influence et vos moyens de persuasion auprès des corps publics et aussi auprès des citoyens fortunés qui pourraient nous secourir.

Habitué, à entendre dire que l'Université serait peut-être forcée de fermer ses portes, je suis porté à penser que le public croit que nous le trompons et que nous avons des fonds secrets.

L'exacte vérité, est que si d'ici quinze jours, on ne vient pas à notre aide, je vous parle comme membre de l'Exécutif de l'Université de Montréal, nous serons forcés d'annoncer au public et aussi aux étudiants que nous ne pourrions ouvrir nos portes en septembre, car nous n'aurons pas de téléphone, de gaz, d'électricité, de chauffage et de matériel d'enseignement, toutes choses auxquelles le dévouement des professeurs même non payés ne peut suppléer.

Ce soir, venez tous au dîner aux édifices de la montagne, afin de montrer à la population que nous sommes unis et que nous désirons que l'université vive pour continuer son oeuvre éducationnelle, oeuvre vitale pour nous tous Canadien-français.

Le Dr Conrad Archambault, président du Collège des Dentistes de la Province de Québec, prit ensuite la parole; il le fit en ces termes:

Mes premières paroles seront pour féliciter bien cordialement au nom du Collège des Dentistes de la Province, les organisateurs de ce Congrès et en particulier son Président très dévoué et très actif, le docteur Denis Forest.

Permettez-moi de vous dire, M. le Président que vous avez un programme bien rempli, du plus haut intérêt scientifique et social, couvrant les différentes sphères de notre Art; Je sais combien d'efforts la mise en réalisation d'une réunion comme celle-ci coûte à ses organisateurs.

Vous en serez remerciés, M. le Président, et MM. les officiers de l'Association des Anciens, par les bénéfices scientifiques qu'en retireront les membres de notre Profession, et par les bienfaits que ces derniers apporteront à leurs patients. Je me réjouis pleinement de voir un si grand nombre de confrères réunis pour écouter le résultat des dernières recherches dans le domaine de notre art, et je constate avec satisfaction que les cliniciens et les conférenciers au programme sont tous des nôtres. Plusieurs d'entre vous, messieurs, ont dû parcourir des centaines de milles pour venir assister à ce congrès, preuve éclatante que vous voulez le progrès, l'avancement de votre profession.

C'est pour nous un devoir de suivre bien attentivement les différentes cliniques qui seront données à ce Congrès, car nous devons à la clientèle qui nous fait confiance, d'être au courant des plus récentes expériences, des nouveaux procédés et d'en faire une application judicieuse.

C'est un privilège que d'être professionnel; en effet, il n'y a personne au-dessus de nous pour nous guider dans les traitements que nous apportons à nos patients, seules nos idées personnelles, nos connaissances nous guident.

Cependant, à ce privilège d'être dentiste est attachée une lourde responsabilité qui retombe

sur chacun de nous et sur la profession tout entière: celle de la santé de la population.

C'est pourquoi, imbu de cette responsabilité, et voyant le mal propagé par les charlatans qui pratiquent notre profession par toute la province, votre bureau des Gouverneurs a conçu un projet de loi afin d'empêcher plus efficacement la pratique illégale de l'Art Dentaire. Ce projet de loi fut présenté à l'Assemblée Législative de Québec au début d'avril, et sanctionné le mardi 18 mai dernier.

Je veux ici rendre justice au Gouvernement actuel qui a fait confiance à notre profession, et je dis, sans faire de politique, mais voulant simplement rendre à César ce qui appartient à César, que le Gouvernement Duplessis en sanctionnant le bill 158: Loi modifiant la Loi des Dentistes, a tenu la promesse si éloquentement et si justement faite par son Chef, celle de protéger le "Capital Humain".

Car vous avouerez avec moi que c'est un *Acte Criminel* pour des charlatans qui n'ont aucune connaissance d'asepsie, de pathologie, ou d'autres sciences dentaires que d'intervenir dans la bouche d'un malade, et de s'exposer ainsi à contaminer la population. Je veux aussi rendre justice au docteur Léo Duguay, député du Lac St-Jean, membre du Collège des Dentistes qui malgré ses nombreuses occupations Parlementaires a bien voulu prendre sur lui d'être le parrain de notre projet de loi; le parrain d'un projet de loi, messieurs, c'est celui qui prend la responsabilité de le mener à bon port; je dis au docteur Duguay, au nom du Collège, qu'il a rendu un grand service à sa profession; je lui dis en plus, qu'il a l'estime et la reconnaissance de la profession tout entière.

J'ai confiance en l'avenir de notre profession à cause de la solidarité qui existe chez-nous, solidarité qui s'est démontrée plus nettement depuis quelques années.

Le sens professionnel vraiment compris par 98% des dentistes s'est manifesté d'une façon éclatante en 1935 lorsque la question de réclamation commerciale, combattue depuis 40 ans par l'élite de notre profession, fut réglée d'une façon définitive plaçant ainsi notre corporation au point de vue dignité au même rang que les autres corps professionnels.

L'avenir de la profession Messieurs, est 1.—dans l'éducation scientifique de ses membres par des Congrès comme celui-ci, par des

cercles d'étude, et par des études personnelles.

L'avenir de la profession est 2.—dans l'éducation de la population en hygiène buccale par le dentiste, dans ses contacts professionnels avec la clientèle.

L'avenir de la profession est enfin 3.—dans l'éducation de la population par les autorités constituées, nos gouvernants, qui se doivent de guider les classes non éclairées vers le maintien de leur santé.

Messieurs, en terminant, j'offre de nouveau au nom de la profession, mes félicitations aux animateurs de ce congrès et les meilleurs vœux de succès à tous les congressistes.

A 2½ hrs, le même jour, eurent lieu les cliniques sur table. Inutile de dire qu'elles furent suivies avec un intérêt soutenu; il serait oiseux de donner à un tel, plus de mérite qu'à son voisin; contentons-nous donc de faire simplement la nomenclature:

*Cliniques sur table*

2.30—

Dr G. H. Kent—Traitement de la pulpe exposée et de ses ramifications nerveuses.

Drs Paul Geoffrion, G. Lord, Joly—Présentation de patients traités à la clinique d'orthodontie de l'Université de Montréal.

Dr A. Bédard—Méthode d'empreinte du docteur Roach. Méthode de coulée d'un partiel au moyen du Cialium.

Dr Gérard Plamondon—Traitement de la Pyorrhée.

Dr. Gérard de Montigny—Statistiques sur les causes d'extraction. Appareils pour la réduction des fractures de maxillaires. Manière simple de préparer une solution anesthésique alcaline.

Dr Lucien Reeves — Interprétation des radiographies.

Dr Conrad Archambault — Articulation anatomique (articulation Hanau).

Dr A. P. Bélair — Empreintes-méthode Steints & Platre.

Dr V. Maranda — Démonstration de l'Articulation Maranda.

Dr A. Larchevêque—Démonstration anatomique sur crâne sculpté en merisier. (L'inscription étant limitée à 15, on est prié de s'inscrire d'avance.)

Dr Alcide Thibadeau — Technique de l'Ionisation.

Dr P.-E. Joly—Fabrication d'appareils de redressements.



Dr Paul Geoffrion—Manière de polir un modèle de plâtre que l'on veut conserver propre.

Dr. P.-E. Joly—Appareils pour prévention des malocclusions.

Dr Maurice Gosselin—Vulcanisation et fini d'une plaque de vulconite.

Dr Théo. Côté — Bridge-work — Valeur respective d'un pont fixe et d'un pont amovible.

Dr Xyste Laberge—Appareil de refroidissement pour substances d'impression.

3.00—

Dr Armand Fortier—Cas d'alvéolectomie —clinique sur patient.

4.45—

Dr Yves Lafleur—Communication.

5.15—

Dr A. Barbeau, M.D.—"Un peu de physiologie" communication.

Le soir, les congressistes s'unirent aux anciens de l'Université de Montréal, dans un grand dîner au nouvel édifice de la Montagne; voici le compte-rendu qu'en ont donné les journaux: (La Presse, 28 mai 1937).

## "L'Université vivra", s'écrit Mgr Maurault

Le recteur de l'Université de Montréal prononce des mots de confiance et d'espoir au cours du banquet annuel des anciens

"Bientôt l'Université revivra et nous pourrions alors en faire l'avenir à notre gré."

C'est sur ces paroles de confiance et d'espoir que Mgr Olivier Maurault, p.S.S., recteur de l'Université de Montréal, terminait, hier soir, son discours au banquet des anciens de cette institution.

Cette fête, la deuxième du genre (il y en avait eu une semblable à pareille époque l'an dernier), se déroula dans la future bibliothèque de l'immeuble inachevé de la montagne. Un millier de convives étaient réunis autour des tables et applaudit avec vigueur les sentiments optimistes que le recteur venait d'exprimer.

La note optimiste résonna d'ailleurs durant toute la soirée.

"Nous ne sommes pas, quoi qu'en puissent penser certains dénigreur" proclama avec

force, Me Arthur Vallée, président de l'Association des anciens, de ceux qui se laissent abattre et qui découragés par les insuccès même répétés, peuvent être tentés de jeter le manche après la cognée.

### *Nous toucherons au but*

"Nous n'avons jusqu'ici rencontré que des écueils, mais nous toucherons un jour au but.

"Plus ardue aura été la lutte, plus glorieuse sera la victoire, plus éclatant sera le soleil qui ne manquera pas de luire après la tempête.

"Pas plus que vous, je ne suis abattu ni découragé."

Au début de son discours, Me Vallée exprima les excuses d'un grand nombre d'invités empêchés de se rendre à la réunion, entre autres, celles de Son Excellence le cardinal Villeneuve, Son Excellence le lieutenant-gouverneur, l'hon. E.-L. Patenaude, actuellement en Europe. S. E. Mgr Georges Gauthier, archevêque-coadjuteur de Montréal, LL. EE. NN. SS. F.-X. Decelles, J.-A. Desmarais, J.-A. Papineau et Anastase Forget; Mgr A.-V. Piette, les honorables Albini Paquette et F.-J. Leduc, les sénateurs Lacasse et Bourgeois, M. Liguori Lacombe, député aux Cammunes, le docteur Marc Trudel, MM. Maurice Tellier et Phillippe Hamel, députés à la Législature.

### *Un fort bon augure*

Il souligna aussi le fait que l'hon. Maurice Duplessis, lui-même ancien élève de l'Université, retenu à Québec par ses devoirs parlementaires, avait délégué pour le représenter M. Jean Bruchési, sous-secrétaire de la province. "Le moins que je puisse dire sans le compromettre", ajouta-t-il "c'est que c'est de fort bon augure".

Il félicita aussi Mgr Maurault de son élévation à la prélature.

Me Vallée demanda aux anciens de secouer l'apathie jusqu'à ce qu'elle croule enfin pour de bon.

"Tous ensemble", dit-il, "donnons un solide coup d'épaule, et Dieu et nos gouvernants aidant, les derniers obstacles seront balayés de notre voie. Le combat ne finira pas cette fois, faute de combattants, mais parce que les combattants seront devenus trop nombreux pour que l'on puisse résister plus longtemps à leurs assauts".

*La trêve de l'université*

Rappelant ensuite que Mgr Maurault avait demandé, l'an dernier, la trêve de l'Université, Me Vallée continua: "Quand l'unité sera parfaite, il faut qu'elle le soit, et elle le sera bientôt, il ne restera plus qu'à donner le signal pour faire lever les masses".

L'orateur remercia tous ceux qui avaient participé au succès de cette fête et qui n'ont ménagé ni leurs veilles ni leurs démarches. Et il termina en donnant rendez-vous aux anciens, l'an prochain, pour chanter, ce jour-là, il le souhaite ardemment, l'Alleluia qui marquera la fin des tribulations de l'Alma Mater.

*Mgr Olivier Maurault*

Le recteur de l'Université fut l'orateur suivant.

"Comment jeter les yeux sur cette magnifique assemblée et n'être pas ému?" dit-il en débutant, "Comment ne pas être heureux aussi? Vous êtes venus porter vos hommages à l'Alma Mater, vous êtes venus resserrer les liens de vos amitiés d'étudiants. S'il est vrai que l'union fait la force, j'ai devant moi une puissance dont nous pouvons tout attendre pour le bien de notre chère Université.

"Depuis qu'on m'a fait l'honneur de me placer à votre tête, je n'ai cessé de faire appel à la solidarité et à la discipline. Ce grand dîner annuel indique clairement qu'un très grand nombre d'anciens comprennent et approuvent mon langage. Mais je ne puis me faire illusion; il y a encore çà et là des groupes de mécontents et d'indifférents dont l'action plus ou moins secrète nous fait un mal énorme.

*Hommages aux professeurs*

Mgr Maurault rendit ensuite hommage aux professeurs qui "malgré l'incertitude du lendemain, continuent de travailler, de se dévouer à leurs élèves et de leur donner le meilleur d'eux-mêmes. Pourquoi les abreuser de malveillance et de soupçons quand ils ont tant besoin de paix et de tranquillité?"

"Toute maison divisée contre elle-même périra" poursuivit Mgr Maurault, "Pratiquons la charité chrétienne, la discrétion, la pitié et l'opinion changera. D'hostile, elle deviendra sympathique.

"Si au contraire, la critique et l'inertie continuent leurs ravages, nous allons écrire une

des pages les plus humiliantes de notre histoire, une page comparable à celle qui raconte les méfaits de ces 'éteignoirs' du milieu du siècle dernier, dont l'oeuvre néfaste a retardé de cinquante ans l'instruction populaire.

*Quelle différence entre McGill et nous*

"Quelle différence entre les universités anglaises et la nôtre. Voyez McGill.

"Sans doute, j'exprime ces vérités désagréables devant ceux qui n'ont pas besoin de les entendre, mais les journaux porteront mes paroles aux absents, aux mécontents, aux critiques et j'espère qu'ils en seront remués."

Mgr Maurault remercia lui aussi les organisateurs de la fête, les amis de l'université et même les fournisseurs et les créanciers qui bien que non payés, n'ont pas hésité à décorer les murs, à les illuminer et à meubler la salle pour prouver leur sympathie.

"Il n'est jamais permis de désespérer," conclut Mgr Maurault, surtout à un recteur qui est en même temps un prêtre et qui met toute sa confiance en Dieu.

Et Mgr Maurault prononça alors les paroles d'espérance que nous rapportons plus haut. Il fut vigoureusement acclamé quand il reprit son siège.

*M. Jean Bruchési*

"Il ne devait y avoir que deux discours", dit Me Vallée. "J'avais même promis à M. Bruchési que je ne le ferais pas parler, mais vous pouvez tout de même le lui demander."

L'auditoire réclama alors le sous-secrétaire de la province qui se rend de bonne grâce à leurs demandes.

"Les situations changent, dit-il, mais les sentiments, eux, ne changent pas. Soyez assurés que je n'ai pas semé mes idées sur la route qui m'a conduit à Québec.

"Je suis heureux d'inaugurer en quelque sorte ma vie officielle sous l'égide de l'Université. C'est un heureux augure pour l'Alma Mater.

M. Bruchési s'excusa de ne pas faire un long discours. "Il était une heure moins le quart quand le premier ministre me demanda de le remplacer ce soir. Je suis donc pris à l'improviste."

Et il termina en disant: "L'Université vivra comme nous le voulons."

On remarquait à la table d'honneur, outre ceux déjà mentionnés, S. E. Mgr. A.-E.

Deschamps, évêque auxiliaire de Montréal; l'échevin J.-E. Jeannotte, membre de l'exécutif de la ville de Montréal; M. Victor Doré, président de la commission administrative de l'Université; M. J. Langevin, président de l'Association catholique des voyageurs de commerce; M. René Morin, vice-président de la Société Radio-Canada et président de la Chambre de commerce, et M. J.-A. Bernier, ancien président de la Société Saint-Jean-Baptiste.

Comme l'an passé, l'édifice de la montagne avait été illuminé par les soins de M. Philippe Beaubien. Cet éclairage avait le plus bel effet.

La soirée se termina au théâtre Saint-Denis où les convives assistèrent à la projection de deux films français: "La Porte du Large" et "Le Réserviste Improvisé".

*Vendredi, le 28 mai 1937*

Les communications scientifiques démontrent par leur nombre, leur variété et leur tenue, que les nôtres se classent au premier plan dans la profession dentaire en Amérique du Nord; quelques travaux sont même exceptionnels et ouvrent des horizons nouveaux dans l'ordre professionnel; mais nous nous contentons seulement de n'en donner que l'énumération.

*Vendredi 28 mai*

9.30—Dr Jules Tétreault — L'Angine de Ludwig (communication).

10.00—Dr Viger Plamondon — Anatomie comparée (conférence avec projections).

10.30—Dr Gérard de Montigny — (Préparation de la bouche avant l'adaptation d'une plaque de Prothèse.

11.15—Dr A.-D. Milot — Ionothérapie — clinique.

12.30—Lunch—au Cercle Universitaire. (Les conventums qui veulent profiter du Congrès pour organiser leur réunion peuvent obtenir du Cercle Universitaire une salle où ils pourront y tenir leur dîner.)

2 p.m.—Dr P.-E. Poitras—"Trois Siècles de littérature dentaire", causerie.

2.30 p.m.—Pellicule cinématographique résection d'un frein, par le Dr Gérard Plamondon.

3 p.m.—Pellicule cinématographique, L'articulation Intra et Extra orale", par les docteurs J.-A. Pinault et Rolland LaSalle.

4 p.m.—Pellicule cinématographique, a) "Prise d'empreinte avec substances hydro-colléoidales." b) "L'orientation des modèles suivant le Plan de Frankfort." c) "Méthode de conserver le Dentocoll." d) "Technique de la Radiographie des condyles et des tissus durs et mous de la face." e) "Technique d'un moulage de la figure au moyen du Négo-coll, par les docteurs Gabriel Lord, Gérard Baillargeon et Paul Geoffrion.

5 p.m.—Pellicule cinématographique, Anesthésie générale au Cyclo-propan, par le Dr Moïse Clermont, M.D.

Cette journée se termina par une fête au grand public tenue; à l'Auditorium de l'Ecole Supérieure du Plateau, et qui réunit environ 1200 auditeurs. Elle fut tout à la fois éducationnelle et récréative. Parmi les hôtes d'honneur, on remarquait le Dr Rodolphe Leduc, député de Wright au fédéral, les Drs Philippe Hamel et Léo Duguay, députés à l'Assemblée Législative, Mr Gérard Thibeault, député de Mercier, et Mr Omer Côté, échevin représentant la cité de Montréal. Le président du Congrès, le Dr Denis Forest, présenta les orateurs, cependant que le Dr Adolphe L'Archevêque agissait comme maître de cérémonie. Le principal discours fut prononcé par le Dr Conrad Archambault, président du Collège des Dentistes; en voici le texte:

Je fais miens les souhaits de bienvenue que le docteur Forest, Président de l'Association des Anciens vient de vous exprimer.

Je salue aussi bien amicalement au nom du Collège des Dentistes la présence de Monsieur Gérard Thibeault, Député de Mercier.

Je salue aussi bien amicalement au nom du Collège des Dentistes la présence de Monsieur Omer Côté qui représente officiellement son Honneur le Maire de Montréal.

Au nom de la profession dentaire, je remercie le Dr Philippe Hamel, et le Dr Léo Duguay tous deux membres de notre corporation et membres de l'Assemblée Législative de Québec d'être venus réhausser de leur présence l'éclat de cette soirée, Messieurs vous terminiez hier seulement une session très active et très mouvementée, votre fatigue ne compte plus lorsqu'il s'agit de votre profession, c'est un exemple de solidarité dont je vous félicite.

Dans sa leçon d'ouverture à la chaire

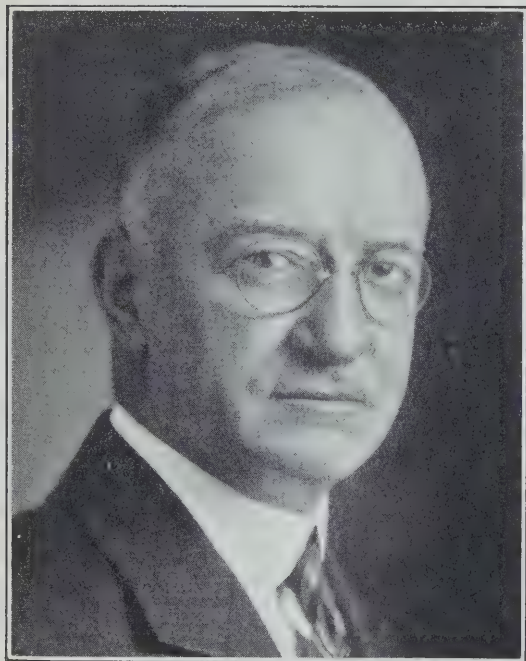
d'Hygiène de la Faculté de Médecine de Paris, le Professeur Léon Bernard posait avec raison le principe suivant: "Le capital humain est le plus précieux de tous; source de tous les autres, à sa valeur sont liés, subordonnés tous les facteurs de la fortune nationale. La sauvegarde de la santé publique est la condition même de la prospérité économique."

Dans l'éditorial du "Devoir" de mardi soir dernier, M. Omer Héroux faisait fort à propos le plaidoyer du Jardin Botanique comme facteur d'éducation populaire; je n'ai ni la

plume ni le talent perspicace de M. Héroux, mais il me pardonnera si je me permets (sans vouloir déprécier la valeur de son article) d'établir le parallèle entre l'éducation populaire en botanique et l'éducation populaire en Hygiène Dentaire. En lisant ce brillant exposé, je n'ai pu m'empêcher de penser à une cause qui nous tient bien à coeur: *la santé*, et de conclure que s'il convient d'éduquer la population sur les fleurs et les plantes, il convient aussi à mon sens, d'éclairer les gens sur le maintien de leur santé.

*A suivre*





LATE DR. C. A. KENNEDY

The Dental profession suffers a great loss in the death of Dr. C. A. Kennedy, Toronto. Dr. Kennedy was attending the Convention of the American Dental Association in Atlantic City when he was suddenly stricken with a fatal heart seizure. He was well known among his colleagues and did much to further the progress of dental science.

Dr. Kennedy graduated from the Royal College of Dental Surgeons of Ontario in 1899, and after post graduate studies he began the practice of Orthodontia. He was examiner in this subject at Toronto from 1907 until his death. He was instructor of

Clinical Orthodontia from 1917 to 1930 and associate professor since 1930. He has been curator of the Dental Museum and Librarian from 1910 to 1915 and from 1917 until present. He has been the Dental Faculty representative to the Senate of the University of Toronto since 1926. He was recently elected to represent the Faculty on the Board of the Royal College of Dental Surgeons of Ontario.

He was President of the Ontario Dental Association in 1933, and for many years has been a member of the Board of Governors of that body. He was Chairman of the Benevolence Committee of the Ontario Dental Association since its inauguration.

In private life Dr. Kennedy was a member of Calvin Presbyterian Church, a member of Zetland Masonic Lodge, a member of Granite Club and a very active alumnus of Xi Psi Phi fraternity. To Mrs. Kennedy and son Charles we extend our sympathy in their bereavement.



HARVEY REID, D.D.S.

Toronto, Ontario

President, Toronto Academy of Dentistry.

Member of the Council of the Toronto Academy of Dentistry for past five years.

Member of Toronto Kiwanis Club.

Captain in Canadian Army Dental Corps in Great War.

# The Journal

OF THE CANADIAN DENTAL ASSOCIATION

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NO. 8

## The Ideal Dentist\*

by C. N. JOHNSON, Chicago

IF I were to picture what I conceive to be the ideal dentist I doubt not that I might be charged with something worse than lack of judgment; I might be charged with total lack of discernment or of vision. Yet I venture to brave the conception of certain among those who have in the past placed what I conceive to be an inadequate estimate on our calling.

When a man, not a dentist, goes on record with the remark that a diploma from a dental school is merely "a badge of partial culture", I feel impelled to raise the question as to how complete a culture is represented by a diploma from an institution in any of the professions.

At best the culture represented by familiarity with any one of the professions is merely partial culture. Essentially every professional man is a specialist, and it matters little how wide or how narrow his specialty may be provided that in the practice of that specialty he is acceptably serving his fellow man and making human life more abundant and more nearly filled with happiness.

If my conception of a dentist transcends that of the average man among my fellows, I can only plead justification for the faith there is in me on the basis

of what I have known of dentists and what I have seen accomplished at their hands.

To be an ideal dentist makes a greater demand on an individual than to reach perfection in almost any other calling. It has frequently been stated that to be a good dentist an individual should be a mechanic, a surgeon, an artist, a sculptor and a physician. I venture to include one more quality, and if my claim in this regard may appear grotesque, I beg of you to analyze it on the basis of the highest conception of what I would have a dentist become. Above all things, I would have a dentist become a humanitarian.

No man can ever measure up to my concept of a dentist without having in his heart an abiding and absorbing love of his fellow man. Kindliness, forbearance, tolerance, charity and good cheer—all of these must form the warp and woof of daily life and merge in the alembic that I would distill in the making of a good dentist.

An ideal dentist should above all things be a good and gentle man. He should stoop to raise to his feet a fallen friend or foe. He should touch humanity at every phase of a varied and loving

\*Presented at Complimentary Luncheon given to Dr. Johnson by the Western Canada Dental Society, Saskatoon, Saskatchewan, May 31, 1937.—Editor.

life. He should prattle with infancy, rejoice with youth, hold communion with middle age, and tenderly minister to the infirmities typified by the sear and yellow leaf.

With the deformities and disabilities of little children he should be tender and compassionate, and with the misfortunes of the poor he should be sympathetic and helpful. No fame is ever great enough to absolve a man from the chastening influence of humbleness and self-abnegation, no achievement so transcendent that a greater one does not beckon from the fruitful days to come.

To cease to strive for better things and nobler aims is not my concept of what I would claim for the dentist of the future. In human life I see a sacred trust, and in the haze and mists of fleeting hopes and fears I think I see some cheering rays of light that show the way to better things, to vistas yet unknown. I see prevention made a fact, and the dismal toll of disease and suffering winnowed from the consciousness of man.

I see a magic wand waved over the

despair and agony of the past, and the blessed balm of peace and joy suffuse the purpling East.

I see ambition's hydra head struck down with faith and hope, and all the ills of human hate dispelled by love and cheer, I see portrayed an honest man unswerved by greed of gain, unmindful of the lust of wealth, untouched by taint of craft.

And in that day when hearts are brave, and hope beats high within, we'll beckon in the dawn of light, and hail a happier time. And in that day when men are men, the peasant and the prince, the lowly and the passing great, the famed and the humble few, shall mingle all with one accord and join each other's hands, and culture shall be known of men for what it brings to men, and what it brings of happiness and what it brings of joy, and how it lightens up the smiles of pilgrims in their way.

And in that day we'll brothers be, the lame, the halt, the blind, the men of cloth, the men of toil, the dentist and the sage.

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## Report of Research Committee of the Canadian Dental Association

*(Presented at the Delegates' Meeting, October, 1936.)*

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THE Research Committee experienced difficulty in carrying to a successful issue some of the activities it undertook and is, therefore, unable to present as complete a report as would otherwise have been possible.

The Committee planned three pieces of research.

(1) A study of mentally ill patients at the Ontario Hospital, Whitby, in an effort to ascertain the part dental impactions and mouth infection play as

causative factors in nervous and mental disorders.

(2) The influence of pressure caused by orthodontia appliances on the nervous state of the patients.

(3) Research to discover the effect of secretions from the endocrines on the teeth and bones.

The study at the Ontario Hospital was undertaken by Dr. Andrew J. McDonagh and he was assisted by Dr. R. J. Reade and members of the Hospital Staff. A



large amount of valuable work was done, but the work was interrupted, due to a change of Government, before the research was completed.

The change of Government also made impossible the second activity the Committee had arranged.

Mr. Chas. Shaw, of A. Wander Limited, Peterborough, is greatly interested in dental research and secured for us from his firm the sum of \$500.00 to pay the cost of a study, the nature of which was left to the discretion of our Committee.

It was decided to arrange with the Faculty of Dentistry, University of Toronto, to have the work done at the University. The work has been carried on by Dr. Elmer C. Purdy under the direction of Dr. Arthur Ham, Assistant Professor of Anatomy.

The following report will indicate the

progress thus far:

Dr. Elmer Purdy and Dr. Ham investigated the effect of large single and daily doses of parathormone on the teeth and bones of guinea pigs. A large single dose was found to cause tremendous resorption of young trabeculae in young pigs in 48 hours. Little effect was observed on the bones of older animals. The teeth showed the effects of the disturbed calcium metabolism in the portion produced since the beginning of the experiment was begun. This work is being continued, and other methods to produce a general decalcification of the bony structures, are now being utilized.

We regret to report the sudden passing of Dr. R. J. Reade and the death of Dean Wallace Seccombe, both of whom took an active interest in our activities, Dr. Reade being Chairman of the Committee.

(Sgd.) ANDREW J. McDONAGH.

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## Modern Developments in Fixed Bridgework\*

by O. W. SILBERHORN, D.D.S., Chicago

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ACCORDING to Webster, the word *modern* means: "That which is new, is just produced, but may be of a familiar or even of an ancient sort, as a new copy of an old book." The word *develop* means: "To bring to light or to completion by degrees; increase the qualities of, to advance by stages from a lower to a higher state."

The restoration of one or more missing teeth by means of spanning a space, with a so-called dental bridge, including the use of the remaining natural teeth to support, retain, and withstand additional forces or pressures, is as old as recorded history. The ancient application of abutment pieces, made of metal bands similar

to present-day orthodontia bands, and pontics constructed of natural teeth, held together by like bands, differed from the modern pieces in that they were constructed in a crude fashion, were ill fitting, and lacked artistic arrangement. Later, the pontic teeth were carved from ivory tusks, and still later, porcelain was applied in the baking of tooth forms. Abutment pieces improved also. The crude bands were extended and capped into crowns, posts were added by inserting them into root canals without regard for the protection of the pulp. Finally, gold castings were developed into abutment and pontic pieces, and so very gradually progress through years of re-

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\*Read before the Toronto Academy of Dentistry, and the Hamilton Dental Society, March 11, 12, 1937.

search has brought about the creation of new and more healthful dental bridges which more appropriately comply with the mechanical and physiological essentials of the dental arch.

At this time it is encouraging to observe a more dominant tendency toward perfection in the construction of prosthetic pieces than has formerly obtained. This progression may be said to be due to:

1. The advancement of preventive dentistry.
2. The refinement of techniques.
3. The new materials available.
4. The fact that under-graduates, as well as post-graduates, are being instructed in the finer scientific specifications.
5. The never-ending pleadings of teachers, and leaders generally, all of whom have given much time and effort in the worthy cause.

In considering the construction of fixed bridgework, we must have in mind the patient's health, his comfort, and the service to be gained from the restoration.

To attain these results the following procedures are very necessary:

1. A full set of radiograms.
2. A thorough examination.
3. Accurately made study models.
4. Full co-operation of the patient at the time and in the future.
5. The eradication of pathological conditions.
6. A careful consideration of the space to be restored.
7. The anatomical form, length of roots, length of crown portion, and position of abutment teeth.
8. Type of bite or occlusion.
9. The selection of character of abutment pieces.
10. Accurate and careful preparations.
11. Accurate fitting abutment pieces, reproducing anatomical form.

12. The use of the newer and more appropriate gold alloys.

13. Accurate impressions, bites, and properly articulated models.

14. An artistic selection of shades, and moulds of artificial teeth, facings or root portions.

15. Harmonious arrangement of pontics.

16. The staining and glazing of porcelain parts.

17. A record made of shade, and mould numbers, with name of manufacturer.

18. Instruction to the patient regarding cleanliness and maintenance.

19. Periodical call system for prophylaxis, check-up of occlusions and function.

With reference to pulpless teeth, I would say that just as long as our leading dental schools teach root canal therapy, and it is carried out as taught, there should be no hesitancy in using them for bridge abutments.

In this connection I quote Dr. Leo Walter Doxtater, from the *Journal of the American Dental Association*, April 1930: "Careful analysis of focal infection cases has shown that a large proportion of the infection found has been due to the destruction of pulps under improperly planned bridges, or to periapical disease caused by imperfect pulp canal technique."

Carefully exercised judgment and study must determine whether the retention of such teeth may work to the disadvantage of the patient's health.

No bridge will serve any more satisfactorily than the existing quality of its abutments, and their surrounding tissues.

#### REMOVABLE BRIDGEWORK

Removable bridgework involving the use of clasps is indicated, among other instances, in extremely short bite cases, in the longer spans, wherein they actually become true partial dentures, in cases

where the occluso-gingival measurement will not permit of the soldering of pontics far enough away from the gingival margin of the abutment piece, and where the placing of a fixed bridge will not permit ease of cleansing by the patient or his dentist. Other examples may be where a required temporary procedure is valuable, also where, in lower anterior regions, there is loss of one or more teeth with alveolar process; here a fixed bridge, no matter how well constructed, cannot be kept clean.

Removable bridges depending upon the abutment teeth to bear the burden of stress during mastication should be constructed with saddles well designed to prevent bucco-lingual sway; also there should be properly recessed preparations in abutment teeth so as to allow the use of strong occlusal rests.

The construction of the occlusal rest is an indispensable factor in this work, as it, alone, prevents the displacement of the accurate relationship of clasps to the teeth.

The use of the specialized attachments in removable bridgework has not progressed to any degree due, probably, to the excessive cost and to the fact that they require special equipment and a highly refined technique.

In spite of accuracy in the construction of removable bridgework and adherence to all considerations necessary, the fact remains that the ridges under saddles of removable bridges change, thus necessitating re-basing in order to relieve the excessive strain on the occlusal rests and to prevent their breakage.

#### FIXED BRIDGEWORK

It is generally accepted that in cases requiring a restoration of two missing posteriors and occasionally three, a fixed bridge is indicated. In the anterior region where the curvature of the arch is not too great, and where four replacements are

required, and where the approximating teeth are in contact with the abutment teeth, here, again, a fixed bridge is indicated. It is obvious, of course, that where a combination posterior and anterior bridge is indicated, and some tooth is serving as a pier, a fixed bridge seems to be better.

With reference to the use of abutments for fixed bridgework, it is notable that there is a modern tendency to cover larger areas with wider proximal surfaces. As a result of this there is less possibility of the abutment pieces becoming dislodged. In addition there is more proper application of Black's principal of "extension for prevention," there is ample opportunity to finish a soldered joint without injury to the margins, and finally, a better access to the margins in finishing them after the bridge has been set.

The principles of cavity preparation as taught by G. V. Black, readily fulfil the requirements of typical inlay abutment pieces, although extensions often are necessary in addition to the typical inlay design. These extensions are made over grooves on the buccal or the lingual surfaces, or both.

In cases where teeth are rotated buccally or lingually, out of their normal position, the extensions are made after the typical cavity design is completed in order to bring the buccal margin, in particular, away from the soldering area.

#### GOLD CROWN

With reference to the construction of the full gold crown, I can offer you no better authority than that published by Dr. Irvin H. Ante, Professor of Crown and Bridgework, University of Toronto, in *The Journal of the Canadian Dental Association*, February 6, 1936. Dr. Ante says: "The gold crown is exactly what the dentist makes it. It can represent an inverted cap of gold squeezed into the

gum, with a tooth beneath it, having a rarified area at the apex, a canal filled with putrescent and infectious material, or a crown full of decayed and dis-integrated tooth structure."

On the other hand, Ante insists, "the gold crown when properly constructed is still, and probably always will be, one of the best means of making a restoration. No other method offers any greater opportunity for the serviceable and permanent reproduction of normal conditions. It gives a maximum of strength and stability of attachment, renders the coronal portion of the tooth more immune to penetration of mouth secretions, and safeguards it against fracture.

"Its principal disadvantages are tendency to gingival irritation, especially when poorly constructed, lack of aesthetics, and great sacrifice of tooth structure. Reasons for failure: (1) The tooth being hidden is often destroyed before trouble under the crown is discovered; (2) lack of proper tooth preparation; (3) difficulty of properly cementing the crown to place, and (4) soft tissue irritation. This irritation is not always fatal to the tooth, but should be avoided as much as possible.

"The most common fault of the gold crown results from faulty occlusion. Properly constructed, it should reproduce exactly, in all essential details, the tooth it is intended to replace, it should be strong and able to withstand masticatory wear, and be made of gold of a karat high enough to withstand the chemical action of secretions. The cusps should be deep and sharp enough to be of aid in mastication, and should not interfere with normal jaw movements." From this you will observe that the gold crown, the storm centre of many debates, and perhaps more neglected and abused to-day than any other single prosthetic restoration, has a sturdy champion in Dr. Ante.

#### THE ANATOMICAL FORM AND CHARACTER OF PONTICS

The occlusal anatomical character of the pontics should be, as nearly as possible, a reproduction of the natural teeth with slightly exaggerated wastegates for the escape of food during mastication.

The occluso-gingival character and the bucco-lingual character should be constricted more than the natural teeth so as to favour ease of cleansing, and the maintenance of health in the adjacent soft tissues. In other words, the embrasure spaces between abutment and pontic, or between several pontics, will be slightly exaggerated as compared to those of the natural teeth.

#### THE BUCCO-LINGUAL AND LABIO-LINGUAL WIDTH OF PONTICS

The bucco-lingual and the labio-lingual width of pontics should be so organized that they will be well within imaginary lines drawn on the buccal, labial and lingual from one abutment to the other. It may be noted that many pontics are wider and larger than the abutment teeth themselves. This latter error in construction causes discomfort, difficulty in speaking, may irritate the tongue, and finally will result in unnecessary damage to the abutment teeth and tissues.

#### RELATIONSHIP OF THE FORMS OF ATTACHMENT AND PONTICS FOR SOLDERING OR ASSEMBLING

All soldering areas of the abutment castings and pontic castings should be well rounded and contoured anatomically in order to imitate the contact points of natural teeth, so that when the soldering operation is completed and polished it presents a smooth, rounded connection which will cleanse easily, and will not allow food particles to become trapped. The colour and quality of the solder should conform to that of the alloys used for the abutment and pontic pieces.



Attention is drawn to the fact that at the present time manufacturers of gold alloys which meet the specifications of the Bureau of Standards, Washington, D.C., have prepared charts showing what particular solder should accompany the particular alloy employed.

#### BAKING OF SADDLE AND ROOT FORMS FOR PONTICS

The modern method of baking additions and reshaping facings or tooth forms for pontics is truly a great step forward in fixed bridge development. The saddle form is used in the majority of cases. It is more easily made to conform to the ridge and will tend to maintain a healthy condition throughout the life of the restoration. It will also create a satisfactory aesthetic relationship.

The employment of root form, usually constructed before or immediately following extraction, is still the subject of difference of opinion among operators. This difference of opinion relates to its length and thickness.

Certainly porcelain root forms ought not to be in contact with the bony structure of the socket even though they are properly glazed. Neither should they cause pressure against the soft tissue from within the socket. They may appropriately approach the soft tissues surrounding the socket.

It is difficult to describe the uses of porcelain root forms on account of the many variations and conditions which arise where root form pontics might be used. Experience and good judgment must govern the application. Some cases tolerate the insertion of porcelain root pontics longer than others, whereas some cases show a definite resorption in a comparatively short period of time. Of course, in the anterior region aesthetic requirements control our efforts and force us to build as natural a replacement as possible. All facings and porcelain pon-

tics must be grounded and re-shaped so as to meet individual requirement. Such ground surfaces must subsequently be subjected to re-glazing. This re-glazing must be done with care in order to prevent an over-glaze. The over-glaze will result in a bubbly, rough surface, which may cause tissue irritation or may furnish a surface favouring lodgment of debris.

#### STAINING OF BRIDGE TEETH FOR AESTHETIC EFFECTS

To enhance the aesthetic value of porcelain facings and pontic teeth, the art of staining and the reproduction of flaws and fillings has been highly developed and its application has been rendered much less difficult than formerly. The various colours used for staining are now available in the dry or unbaked state, whereas previously only the actual baking would reveal the true colour. Small inexpensive furnaces heating no higher than 2000° F. are available for this work. Such small furnaces can easily be operated by men not necessarily skilled in manipulating porcelain.

The staining and glazing process may be noted in the following items:

1. Altering shade of an entire tooth.
2. Re-enforcement of pigment at the cervical third.
3. Translucency at the incisal.
4. Gum pink at the neck.
5. Abrasions on incisal and occlusal surfaces—(dentine stained).
6. Erosions at the neck.
7. Staining grooves and sulci of molars.
8. Reproduction of a check—(both dentine stained and enamel).
9. Decalcified spots and cloudy areas.

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# Cysts of Dental Interest\*

by GEORGE A. MORGAN, D.D.S., Toronto, Ontario

THE majority of cysts of dental interest originate from the dental system. These cysts may be defined as structural cavities which have an epithelial lining. This lining in turn owes its origin to the epithelial cells, cell rests or debris which remain in the jaws and which are stimulated to activity and growth by some form of irritation, generally either infective or traumatic in origin. Their occurrence is relatively common in both the maxilla and the mandible. The radicular cyst is the most common of the cystic tumours of the jaws, followed in order of frequency by the dentigerous cyst, the median line cyst and lastly cysts of non-dental and traumatic origin.

The cyst wall varies greatly in structure and diameter, it may be quite thick and fibrous, or no thicker than writing paper, and quite transparent. The cyst content varies just as markedly; it may be thin, clear or amber coloured, or it may resemble soft cheese in consistency, or be very thick and granular, presenting a metallic sheen due to cholesterol degeneration.

As cysts enlarge, the surrounding bone becomes resorbed and thinned out, giving an egg-shell crackle on palpation and is finally lost, permitting the fibrous wall of the cyst to unite with the periosteum. As cysts encroach upon the root ends of teeth, the cementum and dentine may also become resorbed. Nerve trunks, such as the mandibular, may be stretched or pressed aside and the fibrous wall of the cyst may fuse with the connective tissue wall of the nerve sheath. The nerve pressure and displacement account

for the discomfort and pain complained of in some of these cases.

The first stage in cyst formation seems to be root-end granuloma in which epithelial cords present have been stimulated to proliferate. Proliferation and degeneration of both the epithelial and the connective tissue elements of the granuloma proceed to the formation of a definite cyst wall that slowly enlarges with the gradual increase in the cyst contents. These cysts, therefore, develop about the root ends of teeth that have erupted and have become infected. They usually grow quite slowly, and may become so large as to destroy almost completely the bony substance of the maxilla or the mandible. Granulomas retained in the alveolus after extraction of a tooth may be the source of these cystic tumours. In edentulous cases, the cyst may not be discovered for many years.

It is essential that roentgenograms from which diagnosis is made, be satisfactory, and it is generally necessary to have several views of the same region taken with variance of angulation in order to obtain the desired cystic information. Unsatisfactory roentgenograms usually result from one or more of a few common errors that can be corrected. These errors are peculiar to, and more or less constant for, the region in which they occur, and usually result from improper placement of the film packet or incorrect angulation of the tube.

In the interpretation of the dental roentgenogram, one must first have a knowledge of what is normal, realizing, of course, that there are wide structural

\*Presented at operative clinic, Ontario Dental Convention, Toronto General Hospital, May 18-19, 1937.

variations which are well within the normal limits. Unfamiliarity with these variations often leads to misinterpretation. Radiolucent areas are frequently mistaken for cysts and, in some instances, for residual regions of infection, which often leads to exploration and other surgical operations which are not justified and frequently result in embarrassing situations for the operator. Besides a knowledge of what is within normal limits, one must be able to recognize and identify the abnormal findings. Recognition is not sufficient, however; it is by far more important to know something of the significance of such abnormalities.

Cysts of the maxilla present the most difficult diagnostic problems. One must constantly bear in mind several apparently unusual findings which frequently lead to misinterpretation, namely, that approximately five per cent of maxillary antrums extend as far forward as the apex of the lateral incisor; that many maxillary antrums are divided into multiple partitions or convolutions; that the dental ray is merely a flat shadow picture of any area, often one-half to three-quarters of an inch in depth; that the angulation of the film in the anterior maxilla often makes a radicular cyst about a maxillary anterior tooth appear to involve many additional teeth which in many instances are needlessly sacrificed. This misinterpretation is due to the operator's failure to recognize that dental cysts in the anterior maxilla as a general rule extend backward along the roof of the mouth, lingual to and not connected with adjacent teeth.

#### RADICULAR CYSTS

Dental root cysts are the most common of the cystic tumours of the jaws. The epithelial lining owes its origin to the epithelial cells that remain as remnants of the root sheath of Hertwig. These cell nests are found in the peridental membrane surrounding the root ends and are



Figure I.

*Radicular cyst about maxillary devitalized lateral of about two years' standing, which appears to involve the peridental membrane of the adjacent cuspid but which at operation was found to be intact.*

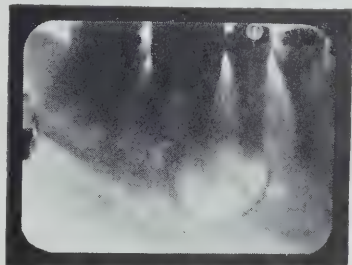


Figure II.

*Radicular cyst about the mandibular devitalized left first molar which appears to involve the second bicuspid. Case at operation disclosed denuded peridental membrane of the bicuspid.*

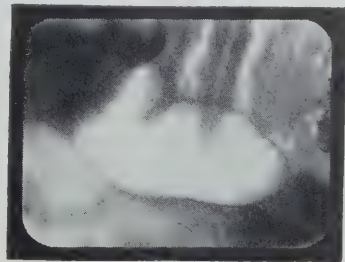


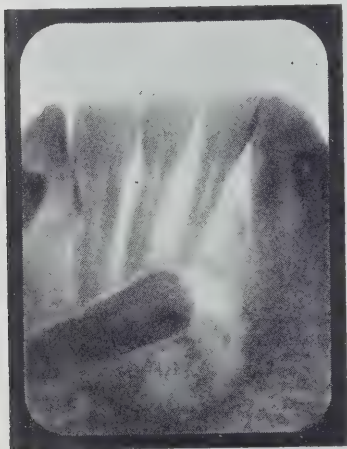
Figure III.

*Multilocular radicular cyst—all teeth appeared normal—no restorations—no history of trauma—hence aetiology unknown.*



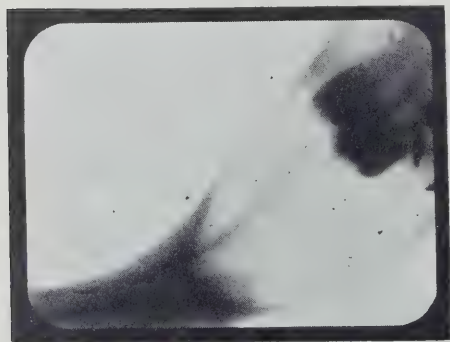
called "peridental epithelial debris of Malassez." The activation of these cells to proliferate extensively is brought about by some form of irritation.

The diagnosis is usually a matter of little difficulty. The presence of a pulpless tooth, presenting in the x-ray a denuded root end in relation to a large



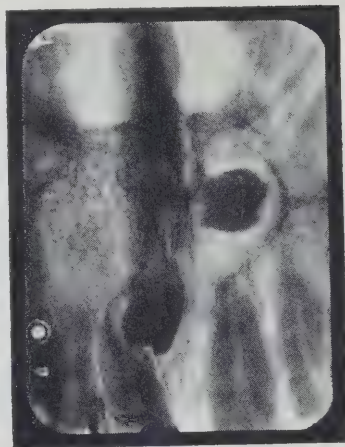
**Figure IV.**

*Dentigerous cyst about mandibular impacted lateral. Unusual type of impaction showing deposition of cholesterol crystals in cystic content.*



**Figure V.**

*Dentigerous cyst about mandibular impacted third molar. This cyst in a patient of 62 years of age—terminated in pathological fracture due to neglect on the part of the patient to have case operated.*



**Figure VI.**

*Dentigerous cyst about two impacted maxillary supernumerary central incisors. Male patient aged 19 years.*



**Figure VII.**

*Dentigerous cyst about impacted mandibular second bicuspid. Caused in part by suppressed, now impacted, deciduous, carious molar—patient aged 15 years.*

circumscribed area in which the alveolar process has become lost, is the typical picture. Illustrated in Figures I, II and III.



#### DENTIGEROUS CYSTS

Dentigerous cysts are derived from a portion of the developmental dental follicle. They are more likely to occur during the period of development and eruption of the teeth; hence they are more common during the first and second decades. Several cases have been observed in patients of middle age. These cysts are found closely attached to an unerupted, often malformed and usually malposed tooth. The cyst wall usually encircles the tooth at the cemento-enamel region, and the crown projects into the cyst cavity. The root, if at all formed, is usually outside the cyst wall and generally firmly embedded in the alveolar process.

The diagnosis may often be made on the clinical examination of an enlargement of the jaw, which is evidently from within the bone. The examining finger may demonstrate that the bone is extremely thinned out, and on pressure a crackling, egg-shell sensation may be elicited. More extensive cystic enlargements may result in a complete loss of a portion of the overlying bone. In these cases there will be a soft spot. The x-ray examinations will reveal a circular or more or less oval destruction of bone, as illustrated in Figures IV, V, VI, and VII.

#### MEDIAN LINE CYSTS

Median line maxillary cysts are situated in the incisive canal, and at least three of every hundred persons have them. They are supposedly derived from epithelial remnants which persist in the interincisive region. It is difficult to distinguish, roentgenographically, between these cysts and large anterior palatine fossae. When such cysts are displaced laterally, they are superimposed on the central incisors and may be easily mistaken for dental root cysts. They are invariably limited as to size, which may

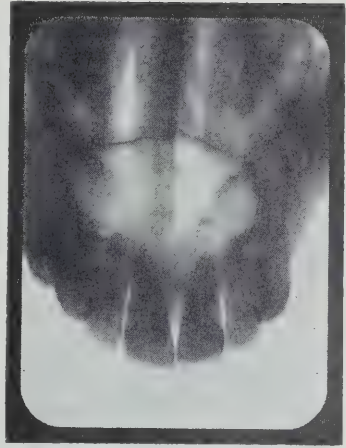


Figure VIII.

*Median anterior maxillary cyst—patient aged 54 years.*

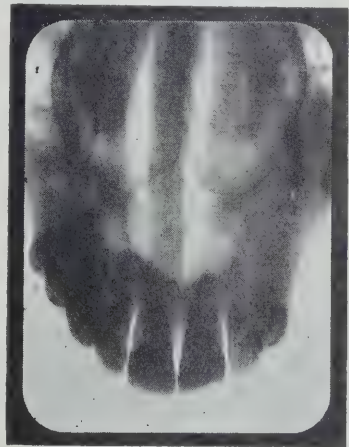


Figure IX.

*Post-operative ray two months after enucleation—note amount filled in—teeth all vital as previously—cyst removed by palatal operation.*

account for the fact that they are almost without clinical significance. It is only when they become infected, or when they exert pressure on the content of the canal, to produce pain, that surgical interference is indicated, and such instances are rare. When necessary, removal should be lingual to the anterior teeth and through the palate. Seldom should it

be necessary to remove any teeth. Illustrated in Figures VIII and IX.

#### RESIDUAL CYSTS

These cysts are usually due to neglect on the part of the operator to remove completely the cystic lining. They may lie dormant for many years only to be suddenly irritated to either slow or rapid growth, as illustrated in Figures X and XI.

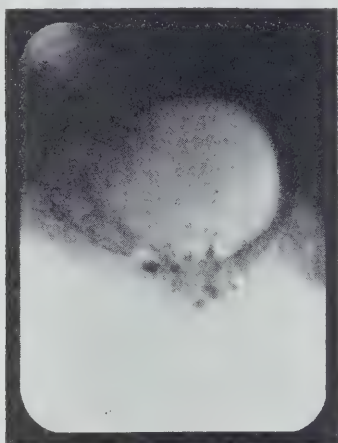


Figure X.

*Residual cyst in the maxillary bicuspid region—note predominance of cholesterol crystals.*

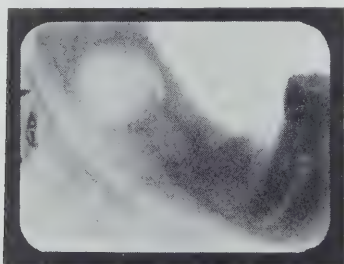


Figure XI.

*Residual cyst in mandibular second molar region due to failure to remove granulomatous area five years previous.*

#### CYSTS OF TRAUMATIC OR INDETERMINATE ORIGIN

Occasionally cysts of traumatic and indeterminate origin may be seen, which

seem to develop independently of the dental system. Since these cysts generally exert no pain symptoms and do not seem to enlarge, operative procedures are generally unnecessary. Those observed most frequently are located at the angle of the ramus and are thought to originate from remnants of Meckel's cartilage. Illustrated in Figure XII.

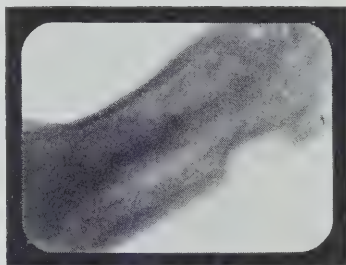


Figure XII.

*Cyst of non-dental origin occurring at the angle of the jaw. Since these remain relatively small, surgical interference is not advised.*

#### OPERATIVE TREATMENT

Cysts should be completely enucleated. It has become a general opinion that cystic wall contents which are left have a tendency to reoccur. Size, shape and extent of cysts should be determined operatively, before teeth are needlessly sacrificed.

#### CONCLUSIONS

Special emphasis should be placed on the importance of carefully taken roentgenological studies, coupled with the knowledge of the anatomy of the peri-apical regions in order that:

- (a) The cyst be removed in its entirety,
- (b) Tooth and bone structure be not unnecessarily sacrificed,
- (c) Sufficient structural and alveolar process remain for successful restorative purposes.

## *Cysts of Dental Interest*

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# A Discussion of Fixed Bridgework

by WARREN C. OXNER\*, D.D.S., Halifax, Nova Scotia

MY OBJECT in writing this paper is the hope that it may provoke a further discussion of this subject by the dentists in Canada, both those who approve of this type of work, who employ it in their practice and some of whom teach the subject as well, and also by those, if any, who do not consider restorations of this kind desirable, and who therefore do not use it.

This question was made vital some twenty-two years ago, for it was in 1915 that Dr. Herman E. S. Chayes, of New York, made his first announcement of his revolutionary dogma, that "teeth move in function," to meet which clinical fact he described, what has become very well known as "movable, removable bridgework." His claim was that fixed bridgework, therefore, is a menace to the environmental tissues of the human teeth—a statement which was much disputed at the time.

In order, if possible, to test the truth or falsity of Dr. Chayes' statement, Dr. Ottolengui, editor of "Dental Items of Interest" at that time, instituted what he called a radiographic survey of the field of fixed bridgework." Radiographs of fixed bridgework were solicited from specialists throughout the country and these were studied and analyzed and the result published in 1920 and 1921. At the outset of this investigation it was suggested that in fixed bridgework, as it was then practised, a radiographic examination would show that 90 per cent had failed. Failure was proven when the film had disclosed, or seemed to disclose, some indisputable evidence of a diseased con-

dition about the abutments which supported the bridge.

The analysis of 62 pieces of bridgework radiographed and on this finding alone, seemed to justify the above claim. In some instances the pulps of the abutment teeth appeared to have been vital when the bridges were set and of these the percentage of failure seemed to be 68½. After the completion of the analysis, however, it was admitted that a deduction could not be finally adopted upon a single research. The investigation had an insufficient history of the clinical facts and these are of great importance. As a postulate for further research, the following premise may be set up: First—the pulp in an abutment may die from stresses traceable to fixation. Second—the pulp in an abutment may die because of faulty occlusion which causes trauma. Third—the pulp in an abutment may die because it is already infected by deep caries, or may subsequently be so infected. Fourth—the pulp in an abutment may die because of the irritation due to trimming off the enamel when preparing for the attachment.

In May 1935, Dr. Ottolengui, in an editorial in his journal, again brought this question into the lime light. In the course of the editorial entitled "The Field of Fixed Bridgework" several significant statements were made. For instance: "The field of fixed bridgework! If there is such a field, it would seem to the writer that the time has arrived when it should be fully described and its boundaries delimited." "If movable, removable bridge work is the highest type of

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WARREN C. OXNER

bridgework and if it is the best type for the patient, it would seem that the use of any other style should rest upon firm fundamental principles. Ever since the announcement by Dr. Herman E. S. Chayes of his dogma that "teeth move in function," something over twenty years ago, the present writer has never inserted a fixed bridge. Where patients have insisted upon bridges being cemented to their natural teeth, he has referred them to experts who advocate and practise such methods." "The writer cannot avoid saying that when a university school carries this teaching to the extreme of advocating (or should the word "condoning" be used?) fixed bridgework in spans often of twelve and fourteen teeth, it

would almost seem that young dentists are being trained along exceedingly hazardous lines." Many of you will recall the article so I shall not quote further from it. At that time a hearty invitation was extended to all those who practise the art of fixed bridgework, and especially to those who teach it, to contribute to a symposium on the subject "Why, when and how should fixed bridges be constructed?" Personally I was much disappointed at the lack of response to that invitation, as it really constituted a challenge to those who practised and taught this art, to come into the open with a free discussion of why they believed in and employed it. We all realize that revolutionary changes in

methods of construction have occurred in the last twenty years and indeed, barring the principle of fixation, it would hardly be recognized as the same type of work and that, as a result of these changes, far less likelihood of trouble of any kind, much less death of pulps of abutment teeth, has developed as a result of employment of a modern fixed bridge. My own reaction to Dr. Ottolengui's invitation is contained in the following discussion, which I see no reason for changing.

Dr. Ottolengui's editorial in the May issue of *Dental Items of Interest* on "Fixed Bridgework" merits, and will no doubt evoke, much discussion. As one who, for many years, has practised and endeavoured to teach this branch of dentistry, I welcome the opportunity to make a few remarks on "Why, when and how should fixed bridges be constructed?"

It occurs to me that those of us who advocate and employ this type of work probably do so for one of two reasons, viz., either we are unfamiliar with the various types of removable bridges in vogue, or, granting that such is not the case, we construct a fixed bridge in the belief that in certain localities and under favourable conditions, we are giving our patients the best possible service which it is within our power to render. That modern fixed structures, as employed today, are far superior to those of some years ago, cannot be gainsaid by anyone familiar with the subject. It is my opinion that this result is in a large measure due to the "radiographic survey" of the field of fixed bridgework conducted by *Dental Items of Interest* some years ago and, as in the present instance, we are indebted to the editor for taking the initiative in that investigation also.

One of the changes contributing to more sanitary and better structure that might be mentioned is the elimination,

except in rare instances, of the pulpless tooth, as an abutment, various forms of veneers, inlays, jackets and thimble jackets attached to vital teeth, having replaced the former, preserve the integrity of the pulp. Surely this is a great step in advance from a comparatively few years ago when such an authority as the late Dr. Hart J. Goslee taught that "before beginning the preparation of a tooth which was to be used as an abutment, such tooth should have the pulp removed and the root filled as a prophylactic measure and as a precaution against future trouble."

Another radical and highly desirable change is the introduction of the modern pontic, also the more general employment of much smaller bridges than were formerly used. I cannot conceive of any dental school, university or otherwise, teaching their students, or even condoning the construction of a ten-tooth fixed bridge, much less one of fourteen teeth. A discussion on this subject is particularly appropriate at this time because there is now in course of organization an association to be composed of the men from the dental schools in the United States and Canada who teach crown and bridge-work and partial dentures, to study the whole question and to formulate principles in an attempt to standardize this work and properly present it to the students.

In the dental department of Dalhousie University, we endeavour to thoroughly cover the subject of crown and bridge-work, both removable and fixed. In the case of the latter we teach that a four-tooth bridge is sound in principle, in other words, one consisting of two attachments and two pontics. In exceptional cases, however, where all the conditions are favourable, a six-tooth bridge is considered safe, but in no instance is a longer one advised.

## *A. Discussion of Fixed Bridgework*

"Why, when and how should fixed bridges be constructed?" In answer to this question I shall confine myself to a particular locality. No doubt other writers will speak of other positions in the arch where they are also desirable. In the anterior part of the mouth between the cuspids, either upper or lower, fixed bridges are often indicated, providing we have favourable conditions, such as suitable and sufficient abutment teeth with good bony support and healthy surrounding tissues. Under such conditions I feel that a correctly designed and constructed bridge (fixed) will more adequately reproduce natural conditions, both from an efficiency and aesthetic standpoint, than any other appliance, so far evolved by dentistry. My experience is that this restoration of "what appeals to the patient" as a return to normal and natural conditions, becomes so very apparent when one has replaced some form of removable appliance "which to individuals of certain temperaments has been intolerable" with a fixed bridge and which after a comparatively few hours the patient is able to forget and with which he is quite happy, constitutes a strong argument in its favour. Such a bridge, adequately attached and supported, should give service for many years.

Conversely, I should be much interested in knowing what happens to Dr. Ottolengui's patients who insist upon a

fixed bridge and whom, as he so frankly states, he sends to an expert in such work. Do these patients in due time return to him reporting failure of the cemented pieces and demanding a removable structure? If not it would seem that the fixed bridge has been successful.

It is difficult to say how a bridge should be constructed, but with the wide variety of both attachments and pontics from which to choose, the problem has been to some extent simplified and one is assisted in selecting combinations which will best suit the case in hand. The beauty and utility of the finished result will, as in all phases of dentistry, depend upon the individual skill and artistic ability of the operator.

In closing, it is interesting to note that Box defines normal occlusion as "physiologic" and as that condition in which the system of forces acting on the teeth during occlusion is in a state of equilibrium and does not and cannot change the normal relationship existing between the tooth and its supporting structure. It is not too much to say that the observations of the periodontists have made possible successful fixed bridgework.

My hope is that we may have from Canadian dentists a free discussion of the subject, so that we may at least know what we in Canada consider the present status of fixed bridgework.

*Henry Birks Building,  
April 12, 1937.*

# Opening the Maxillary Sinus During Extraction

by J. W. GERRIE, B.A., D.D.S., M.D., C.M., D.L.O. (Eng.)  
(From the Department of Oral Surgery, McGill University)

THE question your committee has kindly allotted me is "What Procedure is Advisable in the Event of Opening the Maxillary Sinus during Extraction". My answer is: "Any simple procedure that will obtain the earliest possible closure of the opening."

There is nothing queer or mysterious about the maxillary sinus. It is part of the nose which is a respiratory organ concerned with cleansing, warming and humidifying the inspired air as well as providing the sense of smell and the protective sneeze-reflex mechanism. Both nose and antrum are lined throughout with a ciliated columnar epithelium (Fig. 1). This is surmounted by a

its first line of defense. It is a weak defense and withstands infection or injury poorly.

The mouth is a digestive organ lined with stratified squamous epithelium and bathed by varying amounts of saliva (Fig. 1 also). It harbours the mouth organisms which have, for the mouth, a low pathogenicity. These two systems are separate entities. The one does not tolerate well encroachment on it by the other.

Openings during the course of extraction should be due to the anatomic and pathologic difficulties associated with the the removal of teeth from the area of the antral floor (Fig. 2) and need have

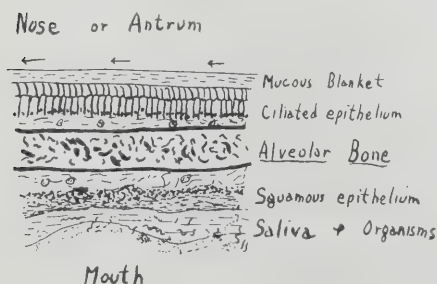


Figure 1

mucous blanket which extends in an unbroken sheet over the nasal structures and is in continuous movement, propelled by the cilia, like an endless chain or escalator, the direction of movement being always towards the throat. Here the mucous is deposited and swallowed when its function has been performed. Normally the antrum is sterile and this ciliary, a mucous-blanket mechanism is



Figure 2

no reflection on the skill or ability of the operator. Hypercementosis and root abnormalities can and do make the extraction of some teeth impossible without antral damage.

If the opening is small and temporary (Fig. 3a), the nasal mucosa may be able to cope with the situation. The mucosa heals and the ciliary mucous-blanket mechanism removes the debris. If large or permanent (Fig. 3b), chronic nasal sinusitis must ensue as saliva and bacteria flow into a cavity that was not intended to house them.



## *Opening the Maxillary Sinus During Extraction*

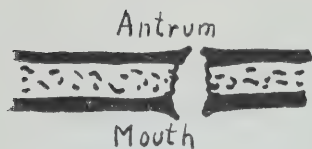


Figure 3 (A)

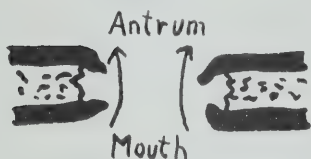


Figure 3 (b)

Openings are of two main types: (1) First, the small openings at the apex of a single root socket (Fig. 4a), or a clump root socket where the roots have em-



Figure 4 (a)



Figure 4 (b)

braced a part of the antral floor (Fig. 4b), or to damage occurring in the elevation of a root fragment. That is, they are small openings in the depth of a socket and occur usually in difficult extractions of the second premolar or first molar. (2) Second, the removal of large parts of the antral floor. This occurs most frequently in the tuberosity region and is due to the interlocking of molar roots, root abnormalities or the overzealous use of an elevator. The injury may be from simple fracture of the tuberosity (Fig. 4c) to the ragged exenteration of

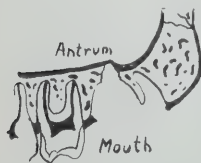


Figure 4 (c)

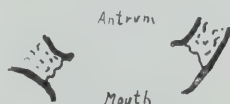


Figure 4 (d)

a great part of the antral bony floor (Fig. 4d).

Surgery is an attempt to aid nature in the restoration of anatomical and physiological integrity, which in these cases and in plain language means closing the hole. Nature will try to close it; the object of surgery should be to assist.

In the case of the small opening at the apex of a socket, do nothing. The usual blood clot will invariably suffice (Fig. 5a). If the opening is larger as in the removal of a part of the antral floor contained between clump roots,



Figure 5 (a)



Figure 5 (b)

those who are not surgically inclined may well be satisfied with the above blood-clot method (Fig. 5b). If one

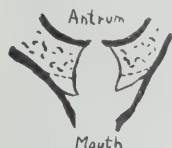


Figure 5 (c)



Figure 5 (d)

has a flare for surgery, mucoperiosteal flaps may be retracted, the alveolar crests trimmed with rongeur forceps (Fig. 5c) and the flaps approximated with suture (Fig. 5d). Where the flaps are difficult to approximate, a superficial layer of iodoform gauze anchored with a suture will help keep mouth fluids away from the deeper parts (Fig. 6a).

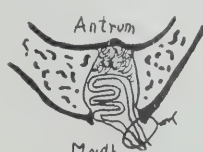


Figure 6 (a)

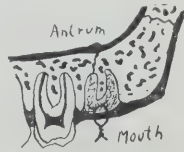


Figure 6 (b)

In the event of tuberosity fracture one need only replace the fragment in

position and suture the torn mucosa (Fig. 6b).

If one has the misfortune to avulse a large part of the bony floor, fistula and chronic sinusitis are prone to ensue. Yet if the antral mucosa is not torn and one can organize sufficient mouth soft tissue, a few well-placed sutures may offset this distressing complication (Fig. 6c).



Figure 6 (c)

These simple direct procedures are advisable. Others merit condemnation:

(1) First, the passing of a probe or rather the repeated passing of a probe. Man is endowed with an inquisitive nature, and the impulse to pass a probe and prove a suspected communication is difficult of suppression. If it must be passed let it be but once as each time causes further injury and disorganization within the antrum. Be sure the probe comes out. Fig. 7 is the roentgenogram of a case in which I believe an ordinary straight pin was used as a probe in a first or second molar socket and slipped from the probing fingers. The patient knew nothing of this until some 8 or 10 years later, this film and a Caldwell-Luc antrostomy revealed the pin as the cause of a chronic maxillary sinusitis. (1) (2).

(2) Second, the use of free paste socket dressings in sockets where possible antral communication exists. Fig. 8 is a roentgenogram of a case in which such a dressing was used following a difficult upper first molar extraction. The fistula was closed but paste had already lodged in the antrum resulting in a foul acute sinusitis. (2).

(3) Thirdly, irrigation of the antrum through a tooth socket is seldom indi-

cated, and tends to maintain the opening and keep the sinusitis chronic. Irriga-

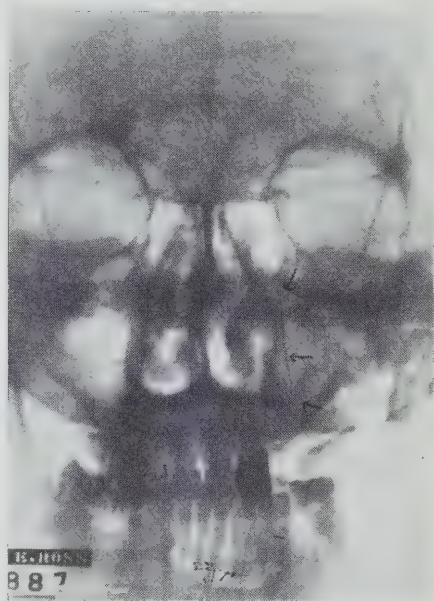


Figure 7

tion is not often necessary and if it becomes so, is better conducted through the nose with the mouth opening closed (Fig. 9).

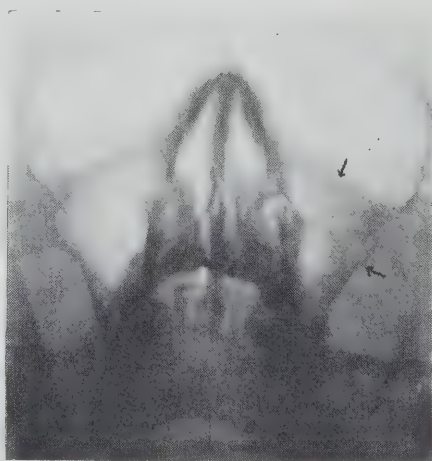


Figure 8

## *Opening the Maxillary Sinus During Extraction*

(4) Fourth and lastly, worthy of condemnation is meddlesome surgery of the alveolus and especially so in relation to the antral floor. I refer to the over-

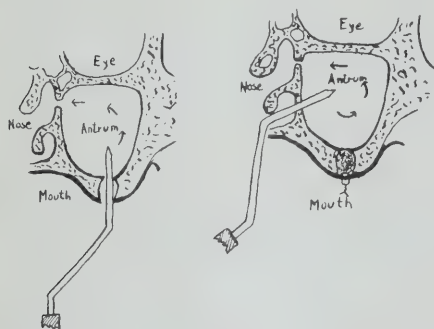


Figure 9

zealous use of curettes and the enlarging of already existing openings. If a curette must be used, let it be elsewhere. It makes an excellent wax carver and a fair vulcanite scraper.

May I leave you with some interesting observations made by an otolaryngologist (3) in dealing with the question of chronic sinusitis and reporting on 200 cases coming to operation. These are his words: "In 17 cases there was a persistent fistula leading into the sinus at the site of the extracted tooth. I am not able to state definitely that these fistula would have occurred from simple extraction, but I have been impressed with the number of patients who, after the extraction of teeth, have had the socket of the tooth curetted widely.—The day of maxillary drainage through the alveolar process has long since passed.—We should recognize the fact that serious, chronic complications will almost invariably ensue if curettage is so done that a large hole is broken through the process into the maxillary sinus. The difficulty of eradicating such a fistula is very great."

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## *Conventions*

THIRTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB—  
SEPTEMBER 22-24.

NOVA SCOTIA DENTAL ASSOCIATION, HALIFAX—SEPTEMBER 2-4.

THIRTEENTH GREATER NEW YORK DENTAL MEETING, NEW YORK CITY—  
DECEMBER 6-10.

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# Problems in Practice

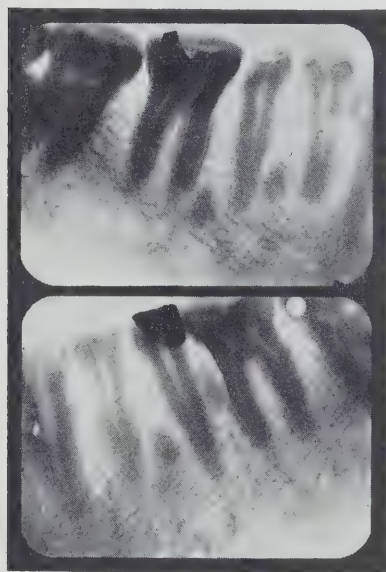
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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM ALBERTA:



The above films were taken for a war veteran suffering from arthritis, age about fifty years. What are the dense bodies between the bi-cuspids and also those distal to the second bi-cuspids on both sides, and are they of pathogenic significance?—*John W. Clay, Calgary.*

## REPLY FROM ROCHESTER, MINNESOTA, U.S.A.:

The dense areas in the bicuspid region are the root ends of deciduous molar teeth. As the bicuspid erupts in a widely

bifurcated, deciduous molar, resorption of the roots of the deciduous tooth is apt to begin at about the middle third. The coronal portion of the deciduous tooth is lost, and the bicuspid erupts in its position, leaving the root ends of the deciduous teeth imbedded in the alveolus. It is quite likely that this deciduous tooth substance is not pathologic since there is no evidence of disturbance of the surrounding bone tissue.—*L. T. Austin, D.D.S., Section on Dental Surgery, Mayo Clinic.*

## REPLY FROM QUEBEC:

These areas of increased density, are due, I think, to extra deposits of calcium, the reason for which I do not know. It has been suggested that the deposits take place in areas which were formerly the seats of infection. I cannot agree with the theory, nor do I agree with the theory that they are due to irritation. I do not believe that they have any pathological significance whatever.—*F. W. Saunders, Montreal.*

## REPLY FROM ONTARIO:

The small dense bodies between the teeth are commonly known as enamel pearls and have no pathological significance.

They could, of course, be remnants of the roots of deciduous teeth but in this particular case, finding four in one mouth



and one in the position mesial and below the apex of the root of the lower left first molar, would, in my opinion, rule out the possibility of these dense bodies being remnants of the roots of deciduous teeth. They are found rather rarely and there is no advantage in surgical interference as they are not pathological.—*William J. Kerr, Toronto.*

#### REPLY FROM ONTARIO:

The dense bodies in the radiographs submitted by Dr. J. W. Clay are retained fragments of deciduous roots. In my opinion they have no pathogenic significance. Incidentally, would regard the lower left second bicuspid with a large cavity in the crown in proximity to the pulp and with some thickening of the periodontal membrane around the root as a possible septic focus.—*James Coupland, Ottawa.*

#### REPLY FROM NOVA SCOTIA:

The dense bodies showing in these x-ray negatives are no doubt shadows termed local hyperplasia, without local pathological significance.

The many degrees of densities, we read in x-ray negatives, are not always due to blood conditions. To finish the picture, knowledge of the patient's general health, available calcium salts, and position of these shadows in the bone, is necessary to observe and study, to complete our diagnosis.—*G. R. Hennigar, Halifax.*

#### REPLY FROM MANITOBA:

Diagnosis of dense areas between bicuspid and molars is sclerotic bone.

Dr. Simpson, of St. Louis, says: viz. of sclerotic bone: It has caused much inconclusive discussion, but no physical disorder and there are radiodontic problems of greater importance.

Personally I can only remember one case of sclerotic bone where soft tissue pathosis resulted from the same. Patient—a Nun, had lower devitalized first molar abscessed. Below it there was a circular piece of sclerotic bone which was not touched when the abscessed first molar was removed. A year later an epulis developed in this area, causing pain. The area was opened under nitrous-oxide, the sclerotic bone and epulis removed and an uneventful healing took place.

Dr. Jos. A. Pollia, of Los Angeles, California, speaks of dense areas as bone hyperplasia caused by bone cell changes as a result of irritation such as thermal, bacterial, toxic, chemical and traumatic, mild enough to cause an increase in blood supply and bone deposit to wall off the irritation.

In the above picture thermal changes could be taking place in picture No. 1 through decayed second bicuspid and in picture No. 2 through the large metal filling in second bicuspid. Trauma could take place through malocclusion as heavy bite. The use of carbon paper and spot grinding would correct this. Bacterial irritation could take place through gingival areas as gingivitis or trench mouth. Chemical irritation could take place by a patient's taking large doses of arsenic or mercury intravenously for syphilis. Toxic irritation could take place from focal infections. General hyperplasia in other bones of the body might indicate abnormal stimulation of the parathyroid gland, whose function is to deposit bone cells. The first molars show secondary dentine in pulp chambers. In picture No. 1, secondary dentine is also forming in the second molar.

People with a high calcium deposit are usually very energetic with plenty of reserve "Pep", showing an active endocrine function.—*E. Roy Bier, Winnipeg.*

# The Forum

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## • DENTAL HEALTH PROGRAMS IN GEORGIA

ATLANTA — Of the 40,000 white school children in the Atlanta City Schools, only 22% had defective mouths upon examination last year. Just fifteen years ago, 96% of Atlanta school children had defective mouths.

From January to December, 1936, 3,106 cases were treated in the clinic for any type of service. The following information concerning those cases is significant: "These cases, of necessity, represent the lowest economic and social strata in the city.) Of 3,106 cases:

- 109 six-year molars were extracted.
- 10 children lost two six-year molars.
- 89 children lost one six-year molar.
- 7 twelve-year molars were extracted.
- 49 of the children having molars extracted had come into the system within the year.

(A.D.A. Press Release Service.)

## • A COMPARISON BETWEEN THE BACTERIOLOGICAL EXAMINATION OF EXTRACTED TEETH AND THE X-RAY FILM

By JOHN V. LENBURG, D.D.S.

(Excerpt from paper appearing in the *Northwestern University Bulletin*, May 1937.)

CONCLUSIONS:—1. There was no high percentage of agreement between the roentgenograms and the bacteriology as presented by any of the five locations of the teeth from which cultures were made.

2. Streptococci, staphylococci, bacilli, and unidentified cocci were the prevailing organisms.

3. There was no greater number of positive cultures for any one type of tooth than for another.

4. The considerable number of positive cultures from roentgenographically negative teeth and the number of negative cultures from roentgenographically positive teeth indicates that one or both of these methods of diagnosis are not to be altogether relied upon as giving an accurate picture of actual periapical infection of teeth. This may be caused either by the inadequacy of the roentgenogram to represent infection, or by insurmountable technical difficulties in obtaining a true bacteriological culture.

5. It is very difficult to make sure that contamination has been eliminated in all cases.

6. Subsequent investigation on this subject should include further attempts along the line of the present investigation to secure a more representative bacteriological picture by advanced methods of culturing to separate contaminating organisms from infecting organisms.

## • THE AMERICAN FOUNDATION STUDY IN MEDICAL CARE

THE American Foundation Studies in Government, in its recently published report "American Medicine — Expert Testimony Out of Court," makes no mention of dentistry.

The attempts of dentistry to stress the desirability of medico-dental co-operation have met with meagre response from the medical profession. The latter has been generally inert to the proposition that dentistry is an important factor in the treatment of general bodily disease. Finally, the apparent unwillingness of medicine to accede to dentistry, a service required by upward of 98 per cent of the population, any appreciable importance

in the public health program can result only in relegating the dental profession to a comparatively minor role in plans intended to provide adequate medical care for the population as a whole. If dentistry expects to continue its scientific and professional progress and its service to humanity, it must show sufficient independence and self-reliance to do its own thinking and meet medicine on common ground where the interests of both professions are concerned.—*Excerpt from editorial in New York Journal of Dentistry, June, 1937.*

#### • THE TREATMENT OF HUMAN BITES

WITH the evolution of man from his simian ancestors the teeth as weapons of offence have ceased to be seriously considered. Yet cases of human bites occur and Dr. Lowry, in the *Annals of Surgery* for December, 1936, draws attention to the serious complications which may follow. He describes

the human mouth as the dirtiest of all mouths, and the infections which may follow a bite are often extremely serious. The organisms involved are usually anaerobic streptococci, together with spirilla and fusiform bacilli. He states that he has seen two deaths from a spreading infection so caused. Most of these injuries occur in the hand, and in New York, in a period of two and a half years, no fewer than 132 human bites were treated. So impressed is Dr. Lowry with the serious results which may follow a human bite, that he advocates the routine swabbing out of the wound with fuming nitric acid. Since tetanus bacilli never occur injection of anti-tetanic serum is not required. The wounds should never be sutured. He remarks that while cauterization with nitric acid seems a brutal procedure, yet it is only necessary to see a creeping infection spreading up the arm to realize that heroic measures are fully justified.—*British Dental Journal.*



"As Secretary of this Club it is my duty to tell you that you *must not* drive off in front of the tee-box." "Drive be blown! This is my third."

*Reproduced by kind permission of the proprietors of "Punch"*

● **ARE PULPS AND INVESTING TISSUES OF COMPLETELY EMBEDDED TEETH INFECTED?**

By WILLIAM H. G. LOGAN, M.D., D.D.S.,  
Chicago, Ill.

(Summary of paper in *Journal of A.D.A. and D. Cos.*  
June, 1937)

(1) Two completely embedded lower third molars and one completely embedded upper third molar were studied histologically in situ.

(2) The pulp, periodontal membrane, tooth follicle, bone and overlying oral mucosa are described and illustrated.

(3) No evidence of inflammatory reaction could be found either in the fibrous tissue of the tooth follicles or in the pulps of these teeth.

(4) Bacteriologic stains of the tissue sections revealed the presence of microorganisms on the surfaces of the erupted teeth and in some infected pulpless teeth in the same jaws; yet no bacteria could be found in the pulps and investing tissues of the completely embedded teeth.

(5) The pulp of the embedded upper third molar contained numerous areas of calcification (pulp stones); similar calcifications were found in erupted teeth of the same individual.

(6) From the normal appearance of the tooth follicle and from the total absence of any inflammatory reaction in or around the completely embedded teeth, it appears that such teeth merely represent a continuation of the pre-eruptive state.

(7) In the light of our present knowledge, the profession should be warned against expecting benefits from the removal of completely embedded teeth in patients suffering from systemic diseases

that are held to be influenced or caused by focal infection.

(8) In spite of the foregoing statements and summary of findings, it is held that embedded teeth in radiographically normal structures should be removed when it is thought that they are accountable for or influencing certain neurologic phenomena. In exceptional cases it would appear that one may be justified in removing embedded teeth when all other fields have been freed from focal infection without benefit and it is the belief of the physician in charge that the health of the patient will be improved by such procedure.

● **THE TREND OF DENTISTRY**

by BRYAN J. WOOD, L.D.S., Eng.

(Excerpt from *British Dental Journal*, April 15, 1937)

THE State, by prohibiting unregistered practice, has in the interest of public health conferred a virtual monopoly on the dental profession. That monopoly necessarily carries with it the responsibility of providing a satisfactory standard of dental treatment available to the whole population. This responsibility the profession can only discharge completely in co-operation with those public bodies which are responsible for the health services of the nation; but it is manifestly our duty and equally manifestly to our best interests, to discharge our share of that responsibility, by indicating how best the deficiencies in the provision of necessary treatment, which we know exist at present, can be supplied, and to co-operate with those public authorities in securing the efficient working of such schemes for the provision of treatment as it may be found desirable to institute.





PRINCE EDWARD ISLAND



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Editor — M. H. GARVIN, Winnipeg

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John Clay, Calgary

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MANITOBA



J. F. Morrison, Winnipeg

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## Convention of the American Dental Association

The 79th annual meeting of the American Dental Association was held in Atlantic City, July 12-16, a gathering notable in the history of organized dentistry in the United States of America. There was a total registration of over 9,000. Of this number nearly 5,000 were dentists, this being over twelve per cent of the membership of this great Association, and the largest enrollment since 1933 during the World's Fair Convention in Chicago.

The keynote or theme of the meeting was "Preventive Dentistry in the Interests of Health" the idea being to co-ordinate the activities of education, research and preventive dental service as dentistry's contribution to the public health, and dentistry's answer to health insurance.

It was emphasized that one could not conceive of a well-rounded health program by the laity or health professions without including preventive dentistry as a community service. Two addresses at the second general session emphasized this viewpoint, one by Dr. Walter T. McFall of Nashville, Tennessee on "Preventive Dentistry — A Fancy or a Fact" and the other

by Dr. Walter Emerson Briggs of Attleboro, Mass., on "Promoting Preventive Dentistry through Visual Education."

The Scientific Sections were ably organized and of great interest. These Sections elect their own chairmen and the chairman secures the speakers for his Section. In fact these Sections are independent groups within the A.D.A. and they develop their own departments without interference.

The general clinics were well organized and most efficiently arranged so that even though 150 clinics were presented on each of three half days one had no difficulty in locating very quickly the particular clinic or group of clinics which one might desire to see.

The commercial or technical exhibits were of a high order and of an educational nature which is greatly to be desired in all such gatherings. All strictly commercial features were relegated to the background.

More than a passing word should be given relative to the magnificent array of Scientific and Health Exhibits. These exhibits were so splendidly arranged and such care taken in their set-up and in preparation of the material used to illustrate the subjects, that many dentists spent nearly their whole time in this Section feeling that papers could be read later in the Journal. There were 108 exhibits in this Scientific Section and the following awards were announced—Class A—Isaac Schour, University of Illinois; Class B—University of Pennsylvania, School of Dentistry; Class C—U.S. Indian Service, Leslie W. Foster.

We would point out to the credit of the dental profession, that Dr. Schour, the dentist who received the Class A award at this convention from a list of 108 exhibitors, was also one of five to receive a Class 1 award at the American Medical Association Convention, held in Atlantic City, where there were 254 exhibitors. Dr. Schour demonstrated very beautifully that the kymographic qualities of the human tooth constitute the basis for ring analysis as a biologic method of assessing health and disease in the growing individual. By the injection of alizarin or fluorine, rings are formed in the tooth structure by which he showed clearly that salts are deposited in the growing tooth at the rate of 4 microns a day and by counting these rings, one is able to take a recently-extracted deciduous tooth and determine the birthday of the patient within a day's time, also the date upon which certain systematic disorders occurred.

Dr. Weston A. Price had an immense and beautiful collection of photographs showing the condition of the mouths of primitive peoples before and after coming into contact with modern civilization. The beautiful photographs of Dr. Isador Hirschfeld of New York City depicted various periodontal lesions and are also worthy of note. However, almost every one of these scientific exhibits was excellent and could only be evaluated by a careful study of the material presented.

Another dentine anaesthetic was presented before the convention which received more than passing interest. The paper was entitled "Research in Dentine Anaesthesia, including a Report on a New Dentine Anaesthetic;

Thymol Aminobenzoate" by Dr. Harold A. Osserman and A. Taub, A.M. of New York City. This new anaesthetic named "Tabesthesin" (now on the market) was developed at Columbia University's College of Pharmacy and was said by Dr. Osserman to be 100 per cent effective in 80 per cent of the cases in which it had been tried so far, and totally ineffective in only 4 per cent. First one must dry out the cavity with a mixture of chloroform 3 parts and acetone 1 part and keep dry during the operation. Then apply the liquid obtundent composed of thymol 6 parts, acetone 1 part and benzocaine 2 parts, for two minutes, then remove and dry cavity with low pressure and wait one minute before operating. There is also a paste for highly sensitive teeth composed of thymol 1 part, tabesthesin 1 part and benzocaine 1 part. The paste is applied on a dry instrument for two and a half to three and a half minutes. Apply a warm instrument to melt the paste and be sure that it melts evenly over the dentine. After half a minute the dentine is ready for operative procedures.

The dental profession as well as the public at large is waiting patiently for an effective dentine anaesthetic and so this further addition to the list of preparations suggested for the purpose will be looked upon with great interest.

Before concluding these remarks, I would like to express on behalf of the visiting Canadian dentists at this Convention, our heartfelt appreciation for the cordial reception extended to us by the officials and members of the American Dental Association.

The new president of the A.D.A. is Dr. Willard Camalier of Washington, D.C. The president-elect is Dr. Marcus L. Ward of Ann Arbor, Michigan.

The next Convention will convene in St. Louis, Missouri in 1938.

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## BOOK REVIEW

**Prosthetic Dentistry**—by NORMAN S. ESSIG, D.D.S., Professor of Prosthetic Dentistry, Temple University, Philadelphia, 181 pages, 111 illustrations. Cloth, \$4.00. Published by Dental Items of Interest Publishing Company.

The publishers advise us that this book is the first volume of a proposed series of elementary books on various phases of dentistry—dental "primers". Originally published, serially, in Dental Items of Interest, the book is primarily intended for the student and is couched in suitable language for the beginner.

In the earlier chapters the author shows the student how to plan the denture and prepare the model for dies and counter-dies. The author recommends the use of air-chamber metal for a bite plate and also recommends

tinning the case for vulcanizing rubber—an excellent practice which has been rather neglected of late.

Other chapters deal with swaged metal dentures and clasps, — rebasing, relining and veneering, the selection of artificial teeth, care of dentures, taking the bite, impression taking and the grinding of porcelain teeth. The last chapter outlines the author's recommendation in laboratory facilities and equipment.

The author feels that the undergraduate who has a clear understanding of the technique of denture construction and who maintains a high standard of excellence in his work will be able, properly, to direct and instruct others when the time comes.—*Kenneth M. Johnson, Winnipeg.*

## CORRESPONDENCE

To the Editor:—

A short time ago I read over your editorials in regard to the financial requirements of the Canadian Dental Association. I well realize the struggle behind the words and would like to pay my subscription for the ensuing year. I need hardly mention that my hopes for the Association are just as great, if I may say so, as yours. There can hardly be conceived a greater appeal to Canadian dentists even though living in China.

I am sure you would be very much interested in the whole University. The dental and medical students take the same courses for the first three years and most of the fourth year also. They are superior in some ways to the courses at home because they take the medical pathology and clinical medicine. The course is one pre-year and six years in the college.

We are looked upon with great favour by the Central Government since we bear the distinction of being the only dental school worth the name in China. A population of 400 millions, with 8 to 12 graduates a year makes a humorous situation. The graduates are in such demand, however, that it is most difficult to keep our own staff appointments filled. They can all secure such good positions the moment they graduate that the exodus from here is great.

Dr. Lindsay has been very pleased with the action of the China Medical Association who recently resolved to have a dental section in its organization. This will be the official dental society for recognized men in this country. With time we hope that it will also register and license men but at present conditions are very irregular and there is much work being done by untrained men. With the same training in medical science as the medical students receive, it is almost necessary to give the dental graduates the same standing in hospitals and societies as is accorded their medical confrères; this is not always done at home.

W. G. CAMPBELL,  
West China Union University,  
Chengtu, Czerchwan, China.

Dr. W. G. Campbell, the author of the above letter, left Winnipeg about a year ago to accept a position on the staff of the West China Union University. We greatly appreciate the interest which Dr. Campbell still exhibits in organized Canadian Dentistry and in the Journal of the Canadian Dental Association, and we extend our best wishes for his continued success in his new field of activity.—Editor.

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## NEWS FROM THE PROVINCES

### MANITOBA:

#### Annual Meeting

The Manitoba Dental Association in joint meeting with the Winnipeg Dental Society held a very successful two-day convention July 7th and 8th, in the Fort Garry Hotel, Winnipeg. The special lecturer and clinician was Dr. Sanford M. Moose, Associate Professor of Oral Surgery at the College of Physicians and Surgeons in San Francisco, California.

Dr. Moose arrived by airplane from his home and left again by plane to attend the A.D.A. Convention at Atlantic City.

The annual business meeting of the Association was held in the Fort Garry during the Convention and the dinner meeting preceding the business was addressed by Mr. Justice F. G. Taylor. Dr. N. S. Bailey, President of the Association, was in the chair. The report from the Dental Advisory Committee which administers the City Dental Relief Clinic for the unemployed receiving relief, showed that approximately 7,000 persons have passed through the Clinic in the past twelve months. It is a matter of interest to the Association to learn that dentistry is the only relief service which keeps within its budget.



**ONTARIO:**

**Toronto Academy**

The council of the Toronto Academy are sparing no effort in their arrangements for their fall and winter program. A special feature this year will be a fall clinic for a full day and evening. Then Dr. J. Oppie McCall of the Guggenheim Clinic has promised to come and present a program of Preventive Dentistry. There will also be a two-day clinical Full Denture course with one general session by Dr. C. S. Tuller, of New Orleans. Dr. Tuller will also lecture in Hamilton and London before the respective societies in those cities.

**Annual Golf Tournament**

The following are the results of the Annual Golf Tournament of District Number Seven, held at Westmount Golf and Country Club, Kitchener, Ontario, July 21, 1937:

Low Gross—Dr. W. M. McGuire, Simcoe.

Second Low Gross—Dr. Gordon Kelly, Hamilton.

Low Net—Dr. J. W. Boyd, Kitchener.

Second Low Net—Dr. H. L. Windrim, London.

Low Gross, 1st Nine—Dr. C. W. Ray, Beamsville.

Low Gross, 2nd Nine—Dr. Hemmerich, Kitchener.

Low Net, 1st Nine—Dr. N. S. Douglas, Woodstock.

Low Net, 2nd Nine—Dr. E. C. Jackson, Hamilton.

Most Birdies—Dr. R. T. McDonald, Hamilton.

Most Threes—Dr. R. O. Winn, Kitchener.

Highest score on 1 hole—Dr. J. F. Blair, London.

Most Honest Golfer—Dr. S. Shantz, Kitchener.

Hidden Hole—Dr. R. C. McLaughlin, Paris.

Committee—Drs. R. O. Winn, J. W. Boyd, G. E. Harper and G. L. Pristin.

**London Dental Nurses**

The recently elected officers of the London Dental Nurses' and Assistants' Association are as follows: Honorary President, Miss Jane Wells and Mrs. M. Edwards (Toronto); president, Miss Florence Wilson; treasurer, Miss Irene Challmer; secretary, Miss Alma Barnes; social convenors, Miss Margaret Kidd and Miss Marion Schultz; sick visiting committee, Miss Loretta McCaughey.

**Dr. Dafoe Upsets Dental Teaching**

The perfect condition of the Dionne quintuplets' teeth to-day is conclusive proof that the theory of dental schools that pre-natal care determines the condition of children's teeth is incorrect, and Dr. Allan Roy Dafoe the babies' physician, has proved himself a "scientist who has done more for dentistry than any other man," Dr. W. G. Thompson, director of dental services of the Ontario department of health, believes.

"The Dionne quintuplets completely contradict the teaching of the dental schools," Dr. Thompson said here after examining the quints' teeth and taking impressions in compound of each of the girls' teeth.—*Toronto Star*.

**QUEBEC:**

**Semi-Annual Golf Tournament**

The Montreal Dental Club held its semi-annual golf tournament at the Country Club of Montreal on June 17th. The turn-out was somewhat smaller than at former tournaments, and in looking for a reason the committee decided that it must be due to the fact that the depression has departed from this section of the country and the boys were making up for lost time at their offices. Those who did attend enjoyed themselves, needless to say, as the day was fine and the course in excellent condition.

Dr. Arnold Mitchell captured the low gross award with a gross of 79. The low net cup could not be awarded as there was a tie between Dr. Paul Marchand and Dr. Donigan. A play-off at a later date will decide the winner.

The dinner in the evening was presided over by the president, Dr. D. D. MacDonald, who also presented the prizes.

### **Free Dental Clinics**

A marked extension over the previous year of free dental work for the indigent children of Greater Montreal was noted at the closing meeting of the Children's Dental Committee held June 25th. The report stated that 269 clinics had been held and in 655 cases treatment was completed. In addition to this, 128 Lachine children were given treatment.

### **French Speaking Dentists**

The following officers were elected for the Association of French-Speaking Dentists of North America at the Third Congress held in Montreal in May:—

President, Paul Geoffrin; Vice-Presidents, Auguste Massicotte, Viger Plamondon, Georges Leblanc, Ernest Daigle, C. Lorraine, Ephrem Binette and Georges Pelletier; Secretary, Adolphe L'Archeveque, Jr.; Co-Secretary, Armand Fortier; Treasurer, G. A. Pineault.

### **NEW BRUNSWICK:**

#### **42nd Annual Dental Convention**

The 42nd Annual Dental Convention of the New Brunswick Dental Society convened in the Admiral Beatty Hotel, Saint John, July 5-6, all parts of the province being represented.

Dr. Stuart Crouch, of Toronto, spoke on "Orthodontia for the General Practitioner". Dr. Karl Knapp, of New York, addressed the gathering on the "Knapp Inlay Technique" and Dr. Frank W. Rounds, of Boston, gave a clinic on "Oral Surgery". Dr. Harry Thomson, field secretary of the Canadian Oral Hygiene Council, gave an interesting address on field work, expressing hopes for still more field work in New Brunswick. Dr. Magee and Dr. Godsoe, both honorary life members attended the sessions.

The following officers were elected for the coming year:—president, F. L. Millar, Fredericton; vice-president, Arthur LeBlank, Moncton; secretary-treasurer, S. K. Wetmore, Saint John; council members, B. R. Ross, Fredericton; F. C. Simms, Edmundson; V. Hudson, Moncton; B. F. Reade, Moncton; A. J. Coulgan, W. C. Carruthers and R. S. Langstroth, all of Saint John; law and legislation, A. J. Cormier, Moncton.

### **NOVA SCOTIA:**

Dr. Harry Garvin, Editor of the Canadian Dental Journal, recently paid a short visit to Halifax while en route to the meetings of the American Academy of Periodontology and the American Dental Association at Atlantic City. Harry is held in high regard in Nova Scotia not only for his eminent professional standing and accomplishments but for his friendly personality as well.

Dr. Chas. E. McLaughlin, of Halifax, motored with his wife and family to Atlantic City where the doctor attended the meetings of the American Dental Association.

### **Oral Hygiene Committee**

The Oral Hygiene Committee has been hard at work completing details of a proposed oral hygiene campaign in Nova Scotia to take place in the fall under the guidance of the Canadian Dental Hygiene Council. Dr. G. R. Hennigar is Chairman of the Committee.

### **Dominion Dental Council**

A Committee appointed by the Nova Scotia Dental Association for the purpose of examining Nova Scotia's relationship to the Dominion Dental Council of Canada has also been holding numerous meetings and their report is expected to be a comprehensive one.

### **Annual Meeting of Nova Scotia Dental Association**

This year's meeting of the Nova Scotia Dental Association is to be held in the Dental Department of Dalhousie University. A refresher course is to be given by the members of the Faculty assisted by Professor Lowry of Montreal. The dates are September 2nd, 3rd and 4th.

### **Western Counties Dental Association**

On June 25th at "Goodwin's Hotel", Weymouth, N.S., the 15th Annual Meeting of the Western Counties Dental Association was held, with Dr. T. Melanson presiding. It

proved to be a splendid meeting with a good representative attendance. One new member, Dr. Layton, of Annapolis Royal, joined the Association. The following officers were elected for the ensuing year:—

President, Dr. W. Harlow, Bridgetown.

Vice-Pres., Dr. L. Cameron, Lawrencetown.

Sec'y-Treas., Dr. G. V. Turnbull, Digby.

Additional Members of Executive Committee—Dr. A. F. Hogan, Weymouth; Dr. H. O. Harding, Yarmouth; Dr. S. B. MacGregor, Digby.

One of the many subjects discussed was that of mail-order dentistry.

#### **PRINCE EDWARD ISLAND:**

##### **P. E. I. Dental Association**

At the annual meeting of the above Association, the following officers were elected:—President, Dr. L. A. Johnston, of Montague; vice-president, Dr. M. A. MacGuigan, Charlottetown; secretary-treasurer, Dr. J. H. Ayres, Charlottetown. Members of the executive council are Doctors T. E. E. Robbins, Charlottetown, Dr. J. A. McMurdo, Summerside, together with the president, the vice-president and the secretary-treasurer.

##### **Summer Dental Clinic**

At the annual meeting of the Ladies' Auxiliary of the Canadian Legion of Summerside it was reported that 95 children had been treated at the dental clinic during the past year, with 503 treatments in all.

#### **BRITISH COLUMBIA:**

##### **Dr. R. L. Pallen Honoured**

Doctor R. L. Pallen, of Vancouver, President of the Canadian Dental Association, received an honorary membership in Omicron Kappa Upsilon, international honorary dental fraternity, at North Pacific College, Portland, Oregon, during the graduation exercises of the College on June 4.

#### **ALBERTA:**

##### **Drumheller Rotary Club**

Dr. F. E. Sandercock gave an illustrated lecture on "Dental Infection" before the Drumheller Rotary Club on May 25.

##### **Edmonton Dental Society**

At the annual meeting of the above Society, held recently the following officers were elected:—President, M. M. Dunsworth; vice-president, Faust Gowda; secretary-treasurer, D. R. McNabb; social convenor, C. H. Lipsey.

#### **SASKATCHEWAN:**

##### **Sympathy Extended Dr. W. W. Irwin**

Sincere sympathy is extended by his host of friends in Saskatchewan and elsewhere to Dr. W. W. Irwin, Moose Jaw, president of the Council of the College of Dental Surgeons of Saskatchewan, in the loss of his wife who died June 24th last. The late Mrs. Irwin was possessed of a very gracious personality and was prominent for many years in social circles and in various organizations in the City where her presence and wise counsel will be greatly missed.

##### **Education Tax**

Representatives of organized dentistry in the Province were invited, late in June, to meet with the newly-formed Board of Revenue Commissioners at the Parliament Buildings, Regina, to discuss the application of the new "Education Tax" on personal property as it affected dentists.

The view of the Commission was that as we were professional men selling service and not materials, if we would be willing to have the 2 per cent added to the cost of our supplies and materials purchased from the dental depots it would be satisfactory from their standpoint. As this was the view the committee was prepared to place before the Commission, the meeting was a very harmonious one.

##### **Dr. Leask Returns**

Dr. Duff Leask, a graduate in arts and more recently in dentistry of the University of Toronto, a son of one of the prominent medical men in the City, has returned to Moose Jaw and is conducting the practice of Dr. W. W. Irwin at present. We welcome Duff back home and wish him success whether he decides to locate permanently in his home city or to go further afield. Incidentally, Moose

Jaw is unique in having ten dentists practising in the City who were reared in the city and district.

#### **Regina Gyro Club**

Dr. Charles Weicker was elected president of the Gyro Club June 8 at the annual meeting of the club.

#### **Webb Dental Clinic**

Sixty-four school children were examined and treated during a four day dental clinic held in Webb early in June. The clinic was conducted by Dr. Kenny, of Maple Creek, and Nurse Pierce of the department. The clinic was sponsored by the Homemaker's Club of Webb.

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## **EMPIRE NEWS**

### **GREAT BRITAIN:**

**Memorandum on the Provision of Dental Treatment as a Statutory Benefit, Presented to the Minister of Health, by the British Dental Association, the Incorporated Dental Society, and the Public Dental Service Association of Great Britain.**

The following were the conclusions of the memorandum:

The profession submits that:—

(1) Any extension of health services should include adequate provision for dental treatment.

(2) There is need for such provision is demonstrated by the evidence of the harmful effects of dental disease on general health.

(3) The present arrangements are totally inadequate and such as they are must, by the absence of regular inspection and treatment, fail to benefit in full measure the section of the insured population at present treated.

(4) The institution of a statutory benefit on a capitation basis is the logical method of remedying effectively the defects inherent in the present method. March, 1937.

—*British Dental Journal*, June 1, 1937.

### **New Insurance Bill**

By the new Insurance Bill which has now been published, provision will, as expected, be made to bring within the immediate scope of National Health Insurance all boys and girls who upon leaving school become insurably employed before attaining the present age limit of 16. They will thus at once enter

upon the Medical Panel system and the interval before becoming entitled to additional benefits, including dental supervision and treatment, will be correspondingly shortened. It will be seen that the changes intended to be produced are as anticipated and there is no present indication that the effect desired has been produced by the recent deputation to the Ministry.—*British Dental Journal*, July 1, 1937.

### **AUSTRALIA:**

#### **1937 Roman Catholic School Essay Competition**

All children attending Roman Catholic Schools are eligible to compete in this essay competition. Essays must not exceed 800 words and must be written at school under the teachers' supervision on July 5. Teachers are to select the best three essays in each group and forward them to the Director of Dental Health Education of the Australian Dental Association.

There are three grades in this competition as follows:

1. Pre-Leaving Certificate — Essay title "Dental Health is a National Asset".—2 prizes of £1 each; 3 prizes of 10/- each.

2. Pre-Intermediate Standard — Essay title "Improving the Health of Our Teeth".—1 prize of £3; 2 prizes of £1 each; 3 prizes of 10/- each.

3. Primary Standard — Essay title "My Duty to My Teeth".—1 prize of £1; 8 prizes of 10/- each.



## GENERAL NEWS

### THIRTEENTH ANNUAL FALL CLINIC

Mount Royal Hotel, Montreal, Quebec  
September 22 - 24, 1937

The arrangements for the above meeting are rapidly nearing completion. The provisional program is as follows:

"Practical Bio Mechanics for Unfavourable Complete Denture Cases" — Dr. Arthur P. Little, Richmond, Va.

"The Problems of Parallelism, Retention and Assemblage in Fixed Bridge Restorations" — Dr. Karl W. Knapp, New York City.

"Operative Dentistry Failures Due to Improper Use of Anaesthesia" — Dr. Leroy L. Hartman, Columbia University.

"Porcelain Jacket Crowns and Porcelain Bridges" — Dr. William A. Squires, New York City.

"A Code for Dental Silicates" — Dr. Harold E. Tingley, Boston, Mass.

"Phonetics in Dentistry" — Dr. W. K. Prendergast, Toronto, Can.

Topic discussions on Full Dentures, Fixed Restorations, Porcelain Preparations and Local

Anaesthesia led by the program clinicians.

Table Clinics, a series of some twenty clinics on all phases of dentistry presented by local dentists.

Post Graduate Course by Dr. Karl W. Knapp on the various phases of Mouth Rehabilitation, from 4 to 6 p.m., September 22, 23 and 24. The fee for this course is ten dollars and as the membership is strictly limited, applications accompanied by cheque should be forwarded immediately to the Treasurer.

Membership reservations for the 13th Fall Clinic are now being accepted by the Treasurer, Dr. F. A. Edward, 910 Medical Arts Bldg., Montreal, Canada.

Fee to non-residents is Five Dollars including two luncheons.

Dr. J. K. Carver,  
Chairman, Publicity Committee,  
394 Victoria Ave., Westmount, Que.

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### DOMINION DENTAL COUNCIL TIME TABLE

September Examinations, 1937

#### MONDAY, SEPTEMBER 20

9.30 A.M. to 12.30 P.M.—Prosthetic Dentistry, Crown and Bridge Work.

2.00 to 5.00 P.M.—Physiology and Histology.

#### TUESDAY, SEPTEMBER 21

9.30 A. M. to 12.30 P.M.—Materia Medica and Therapeutics.

2.00 to 5.00 P.M.—Operative and Preventive Dentistry.

#### WEDNESDAY, SEPTEMBER 22

9.30 A.M. to 12.30 P.M.—Anaesthesia and Exodontia (Oral Surgery).

2.00 to 5.00 P.M.—Physics, Chemistry, and Metallurgy.

#### THURSDAY, SEPTEMBER 23

9.30 A.M. to 12.30 P.M.—Medicine and Radiology.

2.00 to 5.00 P.M.—Orthodontia, Jurisprudence and Ethics.

#### FRIDAY, SEPTEMBER 24

9.30 A.M. to 12.30 P.M.—Anatomy.

2.00 to 5.00 P.M.—Pathology and Bacteriology.

#### SATURDAY, SEPTEMBER 25

Clinical Examination and Diagnosis (at the discretion of the Presiding Examiner).

THE EXAMINATIONS WILL BE HELD AT THE

#### FOLLOWING CENTRES:

University of Alberta, Edmonton, Alberta—  
Mr. G. B. Taylor, Presiding Examiner.

University of Toronto, Toronto, Ontario—  
Dr. Lloyd Davis, Presiding Examiner.

Office of Dr. S. G. Ritchie, Halifax, N.S.—  
Dr. S. G. Ritchie, Presiding Examiner.

## SUCCESSFUL CANDIDATES AT THE SPRING EXAMINATIONS OF THE DOMINION DENTAL COUNCIL 1937

Akins, W. J.; Allen, Harvey A.; Archibald, Louis J.; Bay, Morris; Blumes, Joseph; Brett, R. O.; Chechik, M. N.; Christie, J. A.; Clark, W. L.; Clarke, J. M.; Cook, A. F.; Cordone, Joseph; Corman, Sydney; Cragg, T. K.; Christie, P. S.; Crumme, O. W.; Danzinger, G. W.; Day, J. R.; Dixon, C. C.; Dowd, J. P.; Egan, C. J.; Feagan, H. S.; Feasby, R. E.; Florence, D. E.; Fyffe, E. D.; Green, F. S.; Greenfield, Alan; Grey, H. S.; Harnish, W. E.; Hancheroff, W. W.; Harder, A.; Hawrish, R.; Hogg, W. G.; Jamieson, H. S.; Katz, S. R.; Kitchen, P. F.; Koenig, B. J.; Lea, C. S.; Leask, A. D.; Mickelson, O. W.;

Munthe, Jens; Millar, I. A. L.; MacDougal, D. H.; MacIntosh, W. G.; McKeown, G. K.; McGuigan, J. C.; Naimark, J.; Nevin, Hilliard R.; Newman, S. H.; Orobko, Wm.; Page, G. H.; Partridge, R. E.; Purves, J. D.; Richmond, J. E.; Redding, H. D.; Reid, R. N.; Reid, R. D.; Sklar, E.; Smeaton, W. B.; Smith, James L.; Strokon, M.; Stuart, W. R.; Tritt, J. N.; Warriner, Jack; White, C. A.; Wilson, V. D.; Wilson, D. T.; Wilson, W. R. B.; Yankovsky, L.

Dominion Dental Council of Canada,

Dr. A. J. Brett, Sec.-Treas.,

Regina, Sask.

### Health Rally

Nearly 700 physicians and others interested in public health attended the Canadian Public Health Association Convention held in Ottawa in June.

### Female Workers in Canada

The ten chief occupations followed by women in Canada are—domestic servants, stenographers, school teachers, saleswomen, nurses, office clerks, bookkeepers and cashiers, sewing machinists in factories, boarding-house keepers and telephone operators.

Among the more uncommon occupations for women are 3 butchers, 1 tanner, 6 wood carvers, 2 auctioneers, 2 architects, 5 justices and magistrates, 117 undertakers, 32 dentists, 51 postmen and mail carriers, 78 police and detectives and 203 physicians and surgeons.

### Tribute to William John Gies

On July 11, in Atlantic City, a testimonial banquet was tendered Doctor W. J. Gies by the American Dental Association, the National Association of Dental Examiners, the American Association of Dental Schools, the Dental Section American Association for the Advancement of Science, International Association for Dental Research, the American Association of Dental Editors, the Canadian Dental Association, The Omicron Kappa Upsilon Society and the American College of Dentists.

The written testimonial stated that he had brought to the service of dentistry the scientific outlook of a research worker, the educational ideals of a university teacher, the ethical standards of a moral philosopher, the literary abilities of an author and editor, the energy and enthusiasm of a sportsman, the practical wisdom of an experienced executive, the sympathy and the good counsel of a loyal friend.

The general theme of this great gathering at which many could not obtain accommodation, was "Ideals and their Relation to Professional Growth". The toastmaster was Dr. H. Edmund Friesell, of Pittsburg, Pennsylvania. Dr. Maurice William, of New York City, spoke on the "Status of Dentistry". Dr. Benno E. Lischer, of St. Louis, Missouri, spoke on "Dental Education". Dr. John E. Gurley, of San Francisco, California, spoke on "Dental Research", and Dr. Arthur H. Merritt, of New York City, spoke on "Dental Journalism". The response by the guest of honour was most inspiring.

In addition to the testimonial tendered Dr. Gies, a presentation was made to Mrs. Gies, to which she responded most graciously.

### Dental Defects Among Navy Applicants

Total number of applicants applying at U.S. Navy recruiting station, Naval Reserve Armory, Indianapolis, Ind., during the calendar year, 1936—1,244. No. of applicants rejected—physical defects—872—70%. No.

## General News

of applicants rejected—"other causes"—143—11%. No. of applicants physically qualified—228—18%.

Of the 228 whose physical condition was such that they could be accepted, 113, or 9 per cent were given class "A" physical rating and the remaining 115 were given class "B" rating.

The five major disqualifying defects together with the number of each were as follows:

|                                      |     |
|--------------------------------------|-----|
| Defective teeth.....                 | 137 |
| Abnormalities of teeth.....          | 123 |
| Errors of refraction.....            | 118 |
| Defection, physical development..... | 112 |
| Flat foot.....                       | 67  |
| —                                    | 557 |

Defective teeth, 131, and abnormalities of the teeth, 123, account for 254, or 29.1 per cent of the total physical rejections, 872.

The report shows that in addition to the 254 applicants who were rejected primarily because of bad dental conditions, 178 of the other men on the rejected list had very marked dental conditions which could be considered a contributing factor in their rejection.

Adding the 178, whose dental conditions contributed to their failure to pass the examination to the 254 already noted, gives a total of 432, or at least 50 per cent of the 872 disqualified who had serious dental defects.—*Submitted by Dr. E. H. Bruening from a report by Lieutenant H. D. Templeton, U.S.N. (A.D.A. Press Release Service.)*

## IN MEMORIAM

**Rodrigues Ottolengui**—of New York City, aged 76, died July 11 at his home, of a heart ailment after a long illness.

Dr. Ottolengui had many friends in Canada; and *Dental Items of Interest*, the magazine of which he was the distinguished editor for 35 years, was widely read in this country. He retired from dental practice four years ago but continued to edit this magazine.

For many years he specialized in orthodontia and root canal therapy. A few years ago a collection of his dental writings was published under the title of "Table Talks on Dentistry". The fictional phase of his career reached its zenith more than thirty years ago, his mystery-detective novels being translated into foreign languages.

He was an amateur taxidermist, entomologist and photographer, an entomological collection of his being in the American Museum of Natural History.

Dr. Ottolengui was a cousin of the late Count Aguilar, dentist to the former King Alfonso of Spain.

member of the Board of Deacons and former superintendent of the Sunday School. He had also held the office of president and secretary of the Victoria Dental Society.

He was a past master of the Masonic Lodge and a member of the Royal Arch and Scottish Rite, also an active member of the Capital City Commercial Club and the Kiwanis Club of Victoria.

He is survived by his widow and two brothers.

**Wesley T. Haynes**—of Grande Prairie, Alberta, was almost instantly killed on July 7, near Chatham, Ontario, when a car in which he was driving plunged from No. 2 highway.

He was baseball manager of the Athletic Association and president of the Curling Club of Grande Prairie as well as a splendid golfer. He was a member of the United Church, a member of the executive of the Board of Trade and a member of the Masonic Order.

**Mrs. O. G. Shepherd**—aged 44, of North Bay, Ontario, wife of Dr. O. G. Shepherd, died in the hospital June 24.

**Mrs. W. W. Irwin**—of Moose Jaw, Saskatchewan, wife of Dr. W. W. Irwin, died on June 24.

**William Russell**—of Victoria, B.C., aged 62, succumbed to a lengthy illness on June 11.

Dr. Russell was a native of Glasgow, Scotland, and came to Victoria as an infant. He was an active worker in the Emmanuel Baptist Church of which he had been a

**Thomas M. Burns**—of Winnipeg, aged 63, died suddenly in his office on June 7. He had not been ill. In the early days, Dr. Burns played lacrosse. He was one of the organizers of the School Boys of the 80's reunions. Amateur photography was his chief hobby.

He was a member of old St. Andrew's Church and Meridan Masonic Lodge.

Surviving Dr. Burns are his widow, two brothers and a sister.

**W. D. N. Moore**—of Chicago, Illinois, aged 63, died July 19. Dr. Moore was a former Canadian who graduated from the University of Toronto and the Chicago Dental College. He had many friends in Canada.



## . . . SECTION FRANÇAISE . . .

Rédacteur.

ALCILE THIBAUDEAU, D.D.S., A.I.D.O.,  
Professeur à l'Université de Montréal  
516 EST, RUE SHERBROOKE, MONTREAL

### COMITE DE REDACTION

Gérard Baillargeon, D.D.S.  
Paul Geoffrion, D.D.S., A.I.D.O.  
P. E. Lussier, D.D.S.  
P-E. Poitras, D.D.S.

Gérard de Montigny, D.D.S.  
Yves Lafleur, D.D.S.  
A. D. Milot, D.D.S.  
Jules Tétreault, D.D.S.

### REDACTEURS-CORRESPONDANTS

MARCEL DARCISSAC, M.D.,  
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Stomatologiste des Hôpitaux de Paris.  
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ALBERT JOACHIM, D.D.S.,  
Président du Quatrième Congrès Dentaire  
National Belge.  
3 rue de Hornes, Bruxelles.

HENRI VILLAIN, D.D.S.,  
Président de l'Association Générale Syndicale  
des Dentistes de France.  
45 rue de la Tour, Paris.

FRANCOIS ACKERMANN, M.D.,  
Médecin-dentiste.  
33 rue du Rhône, Genève.

JULES THEBAUD, D.D.S.,  
Doyen de l'Ecole Dentaire  
Port-au-Prince, Haïti.

## Compte-rendu du troisième congrès des Dentistes de langue française de l'Amérique du Nord

tenu à Montréal, les 27, 28, et 29 mai 1937

*(suite au discours du Dr Archambault, président du collège des Chirurgiens Dentistes  
du Québec)*

Je me permets ici, de rappeler à votre mémoire une définition de l'hygiène, afin de vous faciliter la compréhension de ce qui suivra: l'Hygiène est cette partie de la médecine qui a pour but de faire connaître les moyens de conserver en santé les gens qui sont en santé, et de préparer ainsi les générations futures.

Les autorités constituées qui surveillent avec intérêt notre patrimoine national se doivent d'étendre leur sollicitude à ce bien sans lequel les autres ont peu de valeur.

Dieu merci, nos gouvernants ont compris leur devoir. Les hôpitaux sont généreusement

subventionnés, les Unités Sanitaires rendent des services inappréciables aux populations rurales. Les médecins et les gardes-malades missionnaires dispensent leurs soins aux régions nouvelles.

En brossant ce tableau, j'aimerais pouvoir affirmer que la part faite à l'Hygiène Dentaire est aussi généreuse chez-nous que chez nos voisins, mais le souci de la vérité m'en empêche. Il existe dans 40 Etats Américains sur 48 une Commission d'Hygiène Dentaire adjointe au Département d'Hygiène Médicale du Gouvernement de chaque Etat. Depuis 1925, le Gouvernement Ontarien a institué un

sous-département d'Hygiène Dentaire ayant son directeur, son personnel et son budget particulier.

Quel est l'état de l'hygiène dentaire dans la Province de Québec? Je ne puis répondre à cette question, le bilan n'ayant pas été établi; par contre, une enquête menée en 1932 par notre profession démontrait un état déplorable. Dans les Ecoles d'Outremont, centre qu'on ne pourra taxer de déficience de nutrition, l'examen révéla que sur 3102 bouches, 27 seulement étaient sans défectuosité. Dans les Ecoles de St-Jean, Québec, l'examen révéla que sur 1025 bouches, 78 seulement étaient sans défectuosité. Je vous laisse le soin de déduire la situation du reste de la Province d'après ce bref exposé. Il est vrai que la ville de Montréal fournit un louable effort dans ce domaine. Elle a institué depuis plusieurs années un département d'Hygiène Dentaire dont les Membres examinent la bouche des écoliers et au besoin les traitent dans ses cliniques.

Il importe de remédier sans tarder à un état de chose aussi alarmant. La carie des dents est une maladie très répandue comme vous le voyez; elle peut-être le symptôme de défectuosité de l'état général; elle a pour cause des facteurs multiples: Nous savons aujourd'hui que l'alimentation durant la formation de la dent et même après l'éruption est un grand facteur de sa conservation ou de sa destruction.

Les membres de notre profession sont les mieux qualifiés pour promouvoir l'éducation en hygiène dentaire; mais ils sont limités dans leur action n'étant en contact qu'avec une infime partie de la population. C'est pourquoi nous exprimons le voeu que l'honorable ministre de la Santé, fidèle aux convictions qu'il a exprimées dans des circonstances analogues au congrès des Médecins en septembre dernier, établisse dans un avenir prochain un sous-département ou sous-ministère d'hygiène dentaire; je suis assuré que M. Gérard Thibeault, député de Mercier et le Dr L. Duguay député du Lac St Jean, dont le support nous a été si précieux dans le passé, nous manifesteront une fois de plus leur intérêt en appuyant, avec le tact et la fermeté que nous leur connaissons, la demande que nous faisons au Gouvernement dans l'intérêt de la *santé publique*.

L'on fit voir ensuite deux films; le premier strictement documentaire: "Comment poussent les dents"; le second, histoire romancée qui, d'une autre façon, n'en atteignait pas moins son but, à savoir: l'importance de la préservation des dents. Ce film, "La dent de Tommy", comme le premier d'ailleurs, était présenté par le service d'hygiène de la Province de Québec.

Quant à la partie récréative, elle avait été confiée à Mme Jean-Louis Audet, qui présenta ses petits élèves de Radio-Petit-Monde. Tour à tour ils récréèrent le public et se firent applaudir dans des choses très charmantes, lyriques et chorégraphiques.

La soirée se termina par une pièce musicale de l'ensemble "Bleu et Or", dirigé par Mr Paul Dionne, étudiant de troisième année en chirurgie-dentaire. Ses camarades, sauf une jeune fille, sont tous de l'université.

Cette soirée joignait l'utile à l'agréable, et le public en gardera un bon souvenir.

*Samedi, le 29 mai 1937*

Le congrès se continua ce matin avec une aussi grosse assistance qu'au début; la liste des travaux présentés se lit comme suit: 9.30—La Société Dentaire de Montréal.

La Société Dentaire de Montréal inaugura cette année une "Boîte aux Questions" où les membres ont pu déposer certaines demandes de renseignements sur des problèmes dentaires. Aujourd'hui cette "Boîte aux Questions" sera vidée devant les congressistes.

Pour vous permettre de penser à l'avance aux réponses que vous pourriez donner, nous énumérons ici les questions qui seront discutées.

1) Quels moyens avez-vous d'obliger le patient à revenir à votre cabinet pour ses pièces de prothèse, après que vous lui avez extrait les dents?

2) Peut-on diagnostiquer une pulpe pathologique dans une dent vivante au moyen de la radiographie?

3) Comment peut-on éviter de lacérer la gencive durant la préparation d'une pile pour une coiffe en porcelaine?

4) Que valent les objections au meulage des dents pour donner une occlusion balancée?

5) Dans quelle circonstance est-on justifiable de laisser en place un bout d'apex?

## Section Française

6) Quand devons-nous employer le froid et le chaud en dentisterie?

7) Comment peut-on contrôler la contraction et la dilatation de l'amalgame?

8) A quelle époque de gestation de la femme est-il dangereux de pratiquer des interventions dentaires?

10.30—Pellicule cinématographique.

"Confection d'un pont en porcelaine" (Technique complète). Par les docteurs René Sarrazin et Georges Larue.

Le congrès se termina par l'assemblée annuelle de tous les Anciens de la Faculté de Chirurgie-Dentaire. Le président, le Dr Denis Forest commença l'assemblée en attirant l'attention des membres sur le dernier projet de loi passé à la législature de Québec, et invita le secrétaire à faire une revue des activités de l'année; la voici:

### *Revue de l'année 1936-37 en lisant les minutes . . .*

Le 19 mai 1936 se termina la 2ième journée des Anciens; ceux-ci élurent le conseil que vous savez.

A la première réunion de ce conseil, tenue le 5 juin 1936, le nouveau président, le Dr Denis Forest, félicita les nouveaux élus, ainsi que le bureau sortant de charge; "Ce dernier, dit-il, a posé les jalons, nous, nous continuerons leur oeuvre."

Les congressistes ici présents sont à même de juger si le Dr Denis Forest a, dans le temps, prophétisé à tort ou à raison; ce 3ième congrès des Dentistes de langue française de l'Amérique du Nord, organisé par eux, aidés naturellement de quelques confrères, en est la réponse.

Il a été tenu durant l'exercice 1936-37 un total de 6 assemblées; la constitution exige que les présences soient mentionnées à l'assemblée annuelle; les voici:

Ont assisté à 6 assemblées, les Drs Denis Forest, Ad. L'archevêque, Amherst Hébert, Armand Fortier et Ephrem Vinet;

A assisté à 5 assemblées, le Dr Gérard Plamondon;

Ont assisté à 4 assemblées, les Drs Auguste Massicotte, Georges Pelletier, Joseph-Alfred Pinault, et A. D. Milot;

Ont assisté à 3 assemblées, les Drs Viger Plamondon, Gabriel Lord, J. F. Perreault,

Roland LaSalle, Paul-Emile Poitras, et René Lavallée;

Ont assisté à 2 assemblées, les Drs Paul Geoffrion, Georges Leblanc, René Sarrazin, Théophile Côté, Moras Manseau et Conrad Godin;

Ont assisté à 1 assemblée, les Drs Martial Durand, Edmour Casgrain, Gustave Ratté et O. Trépanier;

N'ont assisté à aucune assemblée, tous ceux qui n'ont pas été nommés.

Un événement qu'il ne faut pas passer sous silence est le bal des Dentistes organisé l'hiver dernier par le Dr Amherst Hébert; 260 y assistèrent; comme ce genre de réunion n'est plus désapprouvé par les autorités, ce bal devrait être chaque année la réunion sociale par excellence des confrères.

Il conviendrait de citer à l'ordre du jour plusieurs noms; vous les connaissez tous; mais, pour ne pas les oublier, conserver le programme de ces fêtes; ils y sont inscrits.

Si, par hasard, les noms de quelques-uns n'y sont pas mentionnés, et quelque fois ce sont les noms de ceux qui se sont le plus dévoués, que ces derniers se consolent en se répétant ces mots d'un grand juge de l'Ouest canadien, le juge A. Dubuc, victime d'une injustice lors d'une distribution de prix, et qui disait: "J'aime mieux ne pas avoir de récompense et l'avoir méritée, que d'en avoir une sans la mériter."

Nous devons un tribut de reconnaissance tout spécial au gouvernement provincial qui nous a aidé d'une allocation substantielle de \$1200 dollars, ainsi qu'aux dirigeants de cette cité, qui, eux, nous fait cadeau d'un montant de \$400 dollars.

Je ne voudrais pas terminer ces quelques notes sans dire un mot du président actif, le Dr Denis Forest; il a présidé toutes les assemblées avec un tact exquis et une maîtrise extraordinaire; je me fais le porte-parole de tous pour le remercier, et ne regrette qu'une chose, c'est que la constitution ne permette pas qu'un président soit réélu; il serait, sans aucune crainte de se tromper, tout-à-fait à l'honneur en subissant une nouvelle élection par acclamation.

Quant à nos anciens qui ne firent pas partie du conseil, il est bon de se rappeler, que dans le cours de l'année écoulée: le Dr Raoul

Lafond de Woonsocket, à qui l'Université de Montréal conférait le titre honorifique de docteur en chirurgie-dentaire, au 21ème congrès des dentistes de langue française de l'Amérique du Nord, a été créé le 14 juillet dernier Chevalier de la Légion d'Honneur, par le gouvernement français. Dans sa réponse qu'il m'adressait à la lettre de félicitations que je lui envoyais au nom de tous, il me disait: "L'honneur que notre école m'accordait en mai 1935, m'est plus cher que la reconnaissance française sous forme de légion d'honneur; toutes fois, soyez assuré que l'un et l'autre resteront dans ma vie, l'évènement saillant de ma carrière de 37 ans".

Le Dr Philippe Hamel et le Dr Léo Duguay, qui aux dernières élections provinciales, ont été élus députés de la Province de Québec;

Le Dr R. Leduc, qui au mois d'août dernier, était élu député fédéral de Wright;

Le Dr Moras Manseau, qui a été élu échevin de Nicolet;

Le Dr Ernest Charron, président du Cercle Universitaire.

Il y a sans doute plusieurs autres actes des nôtres, dignes de mention, mais le secrétaire plaide ignorance.

Puis nous passons aux élections; le conseil 1937-38 sera composé des membres suivants:

Président—Dr Paul Geoffrin.

Vice-présidents—Dr Auguste Massicotte; Dr Viger Plamondon, Dr Georges Leblanc, Dr Ernest Daigle, Dr Ephrem Vinet, Dr Georges

Pelletier et Dr Carrol Lorrain.

Secrétaire—Dr Adolphe L'Archevêque.

Secrétaire-adjoint—Dr Armand Fortier.

Trésorier—Dr J. A. Pinault.

Directeurs—Drs O. Trépanier, C. E. Massicotte, G. Ratté, A. Milady, M. Manseau, R. Laflèche, E. Casa, J. Giroux, E. Venne, E. Malo, A. Hébert, G. Séguin, G. Plamondon, A. D. Milot, R. LaSalle, D. Graton, G. F. Perreault, G. Piché, V. Maranda, P. Gagnier, A. Surprenant, R. Brossard, T. Guimond, J. Tétrault, H. Charette, E. Larivée, G. de Montigny, P. E. Poitras and H. Provencher. Membres d'honneur—Dr Eudore Dubeau, Montréal; Dr S. Gaudreau, Québec; Dr G. H. Kent, Montréal; Dr D. Forest, Montréal; Dr Jules Thébaud, Port au Prince, Haiti; Dr Ph. Begin, Lewiston, Maine; Dr O. Picard, Woonsocket, R.I.; Dr A. Slavidis, Alexandrie, Egypte; Dr H. Fisch, Gais, Suisse; Dr R. Baudon, Paris, France; Dr Z. Berger, Bruxelles, Belgique; Dr J. Nolin, Montréal; Dr E. Charon, Montréal; Dr R. Leduc, M.P., Ottawa; Dr Philippe Hamel, M.P.P., Québec; Dr Léo Duguay, M.P.P., St-Joseph d'Alma, and Dr G. Lemieux, C.L., Montréal.

Le congrès se termina vers 12½ hrs., et l'on doit dire que les délégués y ont certainement puisé des enseignements qu'ils pourront mettre à profit chaque jours de l'année.

*Dr Adolphe L'Archevêque,*  
secrétaire.

1101, parc Lafontaine  
Montréal.

## **L'Ionothérapie en Chirurgie Dentaire \***

par D. D. MILOT, D.D.S.

**I**L est indubitable que l'ionothérapie a des avantages spéciaux méritant d'être signalés et appliqués en chirurgie dentaire. Les substances colloïdales du corps humain, ayant une affinité pour les charges électriques, recevront très bien par voie électrolytique les médicaments propres au traitement des maladies. Les ions, qui ont la propriété de se mouvoir

à des vitesses différentes, selon les obstacles qu'ils rencontrent dans l'organisme, joueront le rôle d'agents thérapeutiques.

Ces substances médicamenteuses introduites par la galvanisation pénétreront dans les tissus malades, pour ensuite se diffuser lentement et arriver par voie capillaire à des profondeurs, qu'ils ne pourraient atteindre autrement.

\* Conférence donnée à la Société Dentaire de Montréal, en avril 1937.



N'oublions pas que les ions ont une propriété de pénétration, que l'organisme en contient un nombre considérable et que c'est grâce à leur déplacement que le courant peut passer. Le courant employé doit être de faible voltage et de courte durée pour ne pas causer d'escarres par des modifications électro-chimiques des cellules de l'organisme.

Il y a parfois des insuccès, qui sont dus à la perte des propriétés des ions, devenus alors atomes ou molécules à cause d'obstacles que nous devons localiser et éliminer. Par exemple une électrode mal appliquée, des éraflures de la peau, que nous pouvons corriger en enduisant de vaseline la partie déchirée.

Rappelons-nous toujours qu'il y a une barrière assez difficile à franchir: c'est la peau. Cette membrane est très résistante aux ions, malgré sa perméabilité; elle peut non seulement ralentir leur marche, mais elle peut les arrêter complètement.

Notre technique ne peut jamais être trop minutieuse; ayons autant que possible un champ opératoire propre aseptique.

D'après Faraday, "la quantité de substance introduite dépendra de l'intensité du courant et du temps de passage". Il n'y a pas de données absolues sur la quantité à traverser. Mais il est une chose incontestable: à savoir, que les substances médicamenteuses pénètrent puisque le courant passe; la solution ionisée sera diffusée sur toute la longueur de l'applicateur, ajusté sans pression, car une trop grande arrêterait la marche de nos ions.

Cet applicateur de métal pur (pour éviter les oxychlorures) sera uniformément appliqué sur un coton hydrophile exempt de souillures électrolytiques et imbibé de la solution choisie. Ce coton hydrophile doit avoir une certaine épaisseur, afin de prévenir des brûlures et aussi pour éviter d'introduire dans les

téguments des ions provenant du métal des électrodes.

La substance employée doit être bien choisie et appropriée aux réactions que nous voulons produire.

La morphine peut amener une mort rapide et la cocaïne occasionne des manifestations oedémateuses, anémiques et paralysantes en plus de son action anesthésique. Que nos solutions soient fraîches avec un dosage approprié.

Plus sera élevé le titre de la solution, plus gros seront les ions et plus difficile sera leur pénétration dans les tissus; par contre, ne tombons pas dans l'excès contraire et n'employons pas une solution de faible dosage, car la prépondérance irait aux ions parasites.

Le choix des pôles est très important, car les substances introduites ne vont pas toutes au même pôle. Les alcaloïdes et les métaux, étant des cations, seront placés au pôle positif. D'autre part, les métalloïdes et les radicaux-acides étant des anions, leurs solutions iront par conséquent au pôle négatif.

#### *Technique à suivre*

Jamais trop de précautions ne seront prises pour éviter des accidents et assurer un plein succès à notre intervention ionothérapique. Il faut mettre bien en place son appareil, vérifier ses électrodes, stériliser ses applicateurs, prévenir le contact de la plaque métallique avec les tissus pour éviter l'érythème, bien suivre son galvanomètre, augmenter lentement l'intensité du courant.

Voici ce que dit Leduc, au sujet de l'intensité du courant: "La douleur produite n'est pas en proportion de l'intensité du courant; elle dépend beaucoup plus de la vitesse avec laquelle on élève l'intensité"; car quand le courant atteint son maximum, il devient invariable; le patient se plaindra au début avec une intensité de moins de 10 milliampères et après quinze minutes supportera 100

milliampères sans sourciller. Cela tient ce qu'au début, l'intensité s'élève rapidement et spontanément par la diminution de résistance.

Il est donc très important de n'élever que très doucement l'intensité en se basant sur la résistance du patient. Cependant il ne faudra pas confondre les sensations de chaleur avec celles de brûlure. Quand le travail est terminé, diminuez lentement l'intensité jusqu'au point de départ.

N'abusons pas de l'intensité et de la durée.

Que notre courant soit aussi élevé que pourra supporter le patient, soit de 1 à 10 milliampères, afin de ne pas prolonger indéfiniment les séances.

#### *Applications thérapeutiques*

Il arrive parfois, qu'à la suite d'intervention chirurgicale dentaire, il se produise des raideurs musculaires, de l'immobilité, de l'ankylose partielle, parfois complète.

C'est alors qu'interviendra cette machine électro analgésique et anesthésique.

Dans les cas de tétanie, de trismus, de contraction spasmodique des muscles masséter et temporaux, on se servira de chlorure de sodium ou d'iodure de potasse, et s'il y a douleur, de salicylate de soude. L'électrode sera placée au pôle négatif, avec une intensité de 4 à 7 milliampères, pour une durée de 20 à 30 minutes.

Notons en passant, qu'il est toujours préférable de faire immédiatement cette séance et ne pas attendre qu'il y ait constriction et douleur intense ou ankylose complète, parce que, plus on retardera le traitement, plus longues seront les séances et le patient tolérera moins bien l'intensité du courant.

PARALYSIES FACIALES—Voici ce que pense le Docteur Laquerrière l'Hopital Notre-Dame, à qui je dois une large part de mes recherches. Une large compresse

d'iodure de potassium à 1% est déposée à la fois sur l'oeil et sur l'oreille dans laquelle on introduit du coton humecté de la solution. L'électrode du pôle négatif est ensuite appliquée sur cette compresse afin d'agir plus facilement sur le nerf dans son trajet intra-cranien. La diffusion du courant par l'orbite et le conduit auditif est efficace, car elle permet d'atteindre plus facilement par ces voies très conductrices la substance nerveuse et agir sur les exudats et les troubles vaso-moteurs, principaux facteurs de paralysie faciale.

L'oeil doit cependant être l'objet de précautions spéciales; la paupière devra être fermée sous le tampon de coton pour bloquer le passage des ions par le globe oculaire.

La plaque indifférente est placée dans le dos et l'intensité doit être de 3 à 5 milliampères. Trois séances la semaine durant cinq semaines sont généralement suffisantes.

NEURALGIES—Les patients qui se présentent chez le dentiste souffrent souvent de névralgie. Ces affections peuvent être soulagées à l'aide d'une solution de salicylate de soude à 2% reliée au pôle négatif. Après quelques séances de 20 à 30 minutes, la douleur disparaît et cette application est préférable à l'une injection de morphine puisqu'elle ne comporte aucun danger d'intoxication. Pour les cas rebelles et pour les névralgies du trijumeau, si les douleurs sont très marquées, le dosage et l'intensité du courant devront être augmentés.

ABCES, FISTULES, ULCERES, PLAIES—L'ion zinc peut être employé, parce qu'il a les propriétés de ne pas se diffuser et d'agir en profondeur. Son action est désinfectante et il a l'avantage de ne pas coaguler les tissus comme le font parfois des pansements et des lavages. Il est indispensable que la solution soit en contact intime avec la partie malade.

Cette méthode de stérilisation est efficace parce qu'elle permet la fixation des bactéries et prévient leur envahissement des tissus environnants.

*Les ions employés jusqu'à date  
en dentisterie*

**IODURE DE POTASSIUM** — C'est un remède héroïque et très efficace contre l'infection. Grâce à son action antiseptique, sclérolysante, régénératrice et kératogénésique, il tient en échec le développement de la flore microbienne gingivale. Il favorise en outre la cicatrisation et la résolution des tissus par l'action vasodilatatrice de l'iode électrolysé; les rétractions fibro-tendineuses, les tissus sclérosés, les fractures osseuses, enfin toutes les lésions, qui demandent un afflux nouveau de sang bénéficient de ses propriétés. Dans la pyorrhée et la gingivite, son action régénératrice et de reconstitution épidermique m'ont donné des résultats merveilleux, dignes de mention.

L'électrode indifférente venant du pôle positif est appliquée au bras sur une compresse imbibée d'eau ordinaire et l'électrode active placée au négatif ira se mouler sur une gaze stérilisée, imprégnée de la solution d'iodure de potassium à 1%. Le séance est de 15 à 20 minutes avec un milliampérage de 4 à 6.

**L'ION SALICYCLE**—Son action rapide et sa diffusibilité nous rend de très grands services dans les névralgies faciales. Il s'emploie de la même façon que l'iodure de potassium.

**L'ION CALCIUM**—Il vient jouer ici un rôle de tout premier plan dans la pyorrhée alvéolaire, résultat de troubles du métabolisme du calcium. Or l'ion calcium, par son introduction par voie électrique, fixe les sels de chaux suivi ou combiné avec des sels de magnésium, qui rectifiera l'acidité du sang.

Je lisais ces jours derniers qu'en France, on aurait trouvé les mêmes moyens d'enrayer la pyorrhée, en se servant des

mêmes sels par voie intraveineuse. L'avantage du procédé électrique réside dans sa rapidité, sa pénétration directe et son application indolore. Son action est à la fois calmante et régénératrice. Il s'emploie en chlorure au pôle positif à 1%; l'ion magnésium s'emploie aussi au pôle positif mais à un dosage de 10% en chlorure.

Il est recommandable pour la prévention de la carie dentaire, dans les cas de dentition tardive, de décalcification, durant la gestation de la femme, etc.

**L'ION CHLORE**—S'emploie en chlorure à 2% au pôle négatif. Son rôle principal est d'assouplir les tissus cicatriciels à la suite d'intervention chirurgicale.

**L'ION ZINC**—Il est difficile à appliquer en raison de la nécrose qu'il est susceptible de produire; cependant avec une technique appropriée, il peut rendre des services appréciables. Son action est hémostatique et il s'emploie pour combattre les hémorragies des gencives; il s'oppose très bien aux suppurations et aux néo-formations conjonctives. Il est employé au pôle positif sous forme de sulfate ou de chlorure à 1% avec 4 ou 5 milliampères.

**LES IONS ANESTHESIQUES**—Ils sont nombreux mais ils ont le désavantage d'être toxiques; étant appliqués sur la peau, ils produisent de l'oedème, des escarrifications et de la destruction. Cette difficulté est vaincue par une substance anesthésique beaucoup plus active que toute autre et aucunement toxique, c'est le borate de syncaine en solutions dans l'eau distillée à un pourcentage de 10%.

**LES DENTS**—*Leur constitution et la manière d'anesthésier la dentine pour la préparation des cavités.*

Dans une dent nous avons deux parties: un tissu dur constitué par l'émail, la dentine et le ciment; un tissu mou, la pulpe.

L'émail, à cause de sa densité ne peut être traversé par des substances médica-

menteuses; mais la dentine, étant d'après Fort, une substance à formation cellulaire spéciale et possédant des canalicules dentaires microscopiques en nombre considérable est plus accessible par ces ions.

La canalicules sont remplis par une substance transparente, décrite par Tomes sous le nom de fibre de la dentine; et, encore d'après Tomes, la dentine jouirait d'une sensibilité plus grande à la surface que dans ses couches profondes. Cette sensibilité est attribuée aux fibres de la dentine, qui parcourent les canalicules dentaires et qui s'unissent aux cellules superficielles de la pulpe dentaire. Robin et Maginot soutiennent qu'il y a du liquide dans les canalicules dentaires. C'est le point qui nous intéresse ici. S'il y a dans la dentine une région spongieuse, des espaces intercellulaires et des canalicules remplis de liquide, il sera donc facile d'y faire pénétrer certains ions anesthésiques, qui nous permettront de

fraisier et de meuler les dents d'une façon indolore.

*Les avantages de l'ionothérapie  
analgésique et anesthésique*

Vous pouvez maintenant juger par vous-mêmes des avantages incontestables de l'électricité médicale appliquée en chirurgie dentaire. Si par exemple l'iode est déposée sur la gencive son effet sera passager et superficiel; en injection hypodermique, son action ne se fera sentir qu'une journée; tandis que par voie électrolytique, l'iode jouera son rôle durant plusieurs jours à raison de sa pénétration progressive et de son élimination lente.

Rien jusqu'ici n'a égalé son action électro-chimique. De plus l'ionothérapie a les avantages de traitements efficaces, indolores et sans danger dans les cas de pyorrhée, de gingivite, de stomatite et d'anesthésie de la dentine.

### *Congrès de L'ACFAS*

L'ACFAS (association canadienne-française pour l'avancement des sciences) tiendra son cinquième congrès annuel, à Montréal, du 10 au 12 octobre 1937.

La partie principale du congrès est consacrée à la présentation de travaux originaux. Les sections, actuellement prévues, sont les suivantes: Philosophie, Sciences sociales (et Ethnologie), Pédagogie, Histoire et Géographie, Linguistique, Agronomie et Médecine vétérinaire, Sylviculture, Chimie, Physique et Mathématiques, Minéralogie et Géologie, Botanique, Zoologie, Biologie médicale.

Pour inscrire des communications au

programme du congrès, il n'est pas nécessaire d'être membre d'une société affiliée à l'ACFAS. Toute communication personnelle et originale peut être présentée par l'auteur lui-même ou lue par une tierce personne.

Des formules d'inscription peuvent être obtenues en écrivant au secrétaire général, M. Jacques Rousseau, l'ACFAS 1265 rue St-Denis, Montréal.

Les membres de la Société Dentaire de Montréal, Société affiliée à l'ACFAS, peuvent s'adresser au secrétaire, le Docteur Gérard de Montigny, 397 est Bd St-Joseph, Montréal.

### *On Demande*

Dans le numero de Juin j'ai demandé une chaise et un tour (à pied ou électrique). Peu importe que ces objets aient besoin de réparations ou autres choses, un autre bienfaiteur s'en chargera. A

l'âme généreuse qui m'offrira l'un ou l'autre de ces objets j'expliquerai l'usage que j'en veux faire, et l'en remercierai ici même.

HA. 0616, rue Sherbrooke.



## *The Crossroads*

He came to the crossroads all alone,  
With the sunrise in his face,  
He had no fear for the path unknown,  
He was set for an ambitious race.

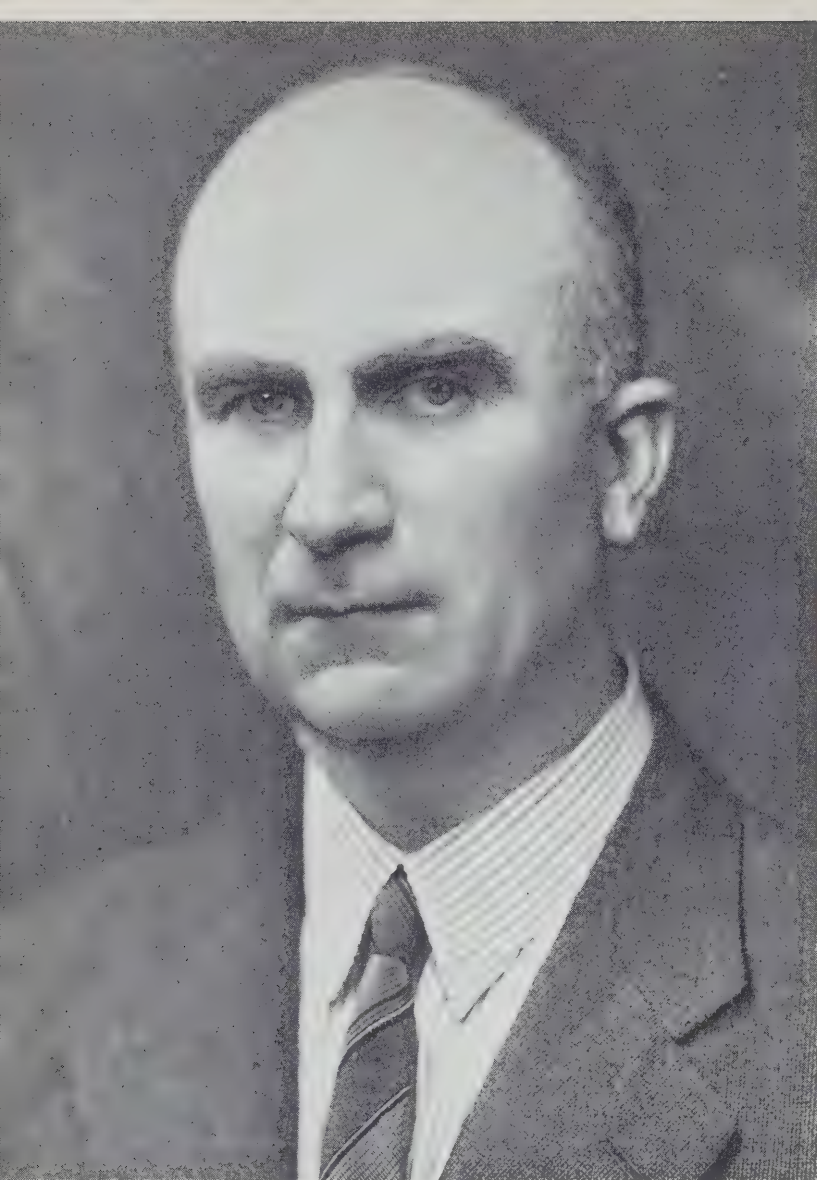
The road stretched east,  
And the road stretched west.  
No one showed him which way was the best.  
So, the boy turned wrong and went on down  
And lost the race and the victor's crown  
And fell at last into an ugly snare  
Because no one stood at the crossroads there.

Another boy on another day  
At the selfsame crossroads stood  
He paused a moment to choose the way  
Which would lead to the greater good.  
The road stretched east and the road stretched west  
But I was there to show him which was the best.

And the boy turned right and went on and on  
He won the race and the victor's crown  
And came at last to the mansions fair  
Because I stood at the crossroads there.

Since then I have raised a daily prayer  
That I be kept faithfully standing there,  
To help the runners as they run,  
And save my own, and another's son.

—In The Spectator.



D. D. MacDONALD, D.D.S.  
Montreal, Quebec  
President of the Montreal Dental Club.

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# The Journal

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## The Status of Dentistry

by PAUL R. STILLMAN, D.D.S., F.A.A.P., F.A.C.D., Longwood, Florida.

"MEDICINE, as everyone knows, is not an exact science."\* This statement is one of the slips of language construction which even learned men occasionally make. Its purpose here is to illustrate a principle regarding dentistry.

Medicine is an *art*. Had the quotation read "Medicine is not a science," a reader would give pause and think. Dentists have confused the relation between "science" and "art." A simple distinction taken from a dictionary may provide dentists with "a yard stick" to measure the present status of dentistry. "*Science is something to be known; art is something to be done.*" Keeping that principle clearly in the foreground of one's mind we may agree that the practice of dentistry is an occupation. A profession is an occupation and medicine and dentistry are both professions. Dentists are conscious that a difference exists between a physician and his own kind but this difference is not clear, because it is philosophical.

Reference to "philosophy" as being of interest to a dentist or to dentistry may appear rather "high brow." As the term philosophy is here used, reference is to the "general principles," not the principles of the knowledge of dentistry but

of the practice; in other words, not science but art.

Art may be discovered to be of many kinds, but all art, whatever its kind, has one characteristic in common, e.g. each art requires material. Even the literary artist refers to his material, and literary art also has definite general principles. A study of general principles of anything, especially art, is philosophy. When the material of an art is identified, a term will be found which identifies that particular art.

Each dentist possesses a knowledge of the general principles of dentistry. These were not taught. The technique of dental art was taught but the general principles were absorbed and accepted. Certainly the general principles have never been taught as a subject in our colleges; nevertheless, (and the observation is an aside) dentistry has been taught objectively rather than subjectively. Thus dentists have developed an objective method of thought, objects they can easily comprehend, which explains the popularity of the so-called dental "clinic",† either "chair" or "table." Subjects, however, can not be comprehended by the objective method. The futility of a periodontia clinic became apparent many years ago.

\*Editorial Med. Times, Nov., 1935. Reprinted Jour. Can. Den. Assoc., p. 205, April, 1937.

†From Greek Klinikos.—A bed (not chair, not table).

The reason has been stated. There the terms "health" and "disease" appeared in discussion. They are subjects. Seen as objects they become physical beauty or ugliness; hence the futility.

It will be agreed that both the practice of medicine and of dentistry are occupations, yet both are professions practising an art. It has been stated that an art is identified by the material it uses. Medicine is defined as "the healing art." Here then, material is an organism and the objective of healing is health. An organism is a unit of life while a cadaver is a dead organism, possibly the dead body of a patient. Interest in the healing art centres on *life present in the material* of the art, so medicine, therefore, is a biological profession.

Some dentists have retained the philosophy of their artisan progenitors, which they have inherited in direct line since dentistry was a trade. To these, it will be an astounding statement, that *material can work* and that the word (healing) is dependent upon the presence of that vague element we call life—physical life.

The term "surgery" was derived from Greek roots whose English equivalents are "hand" and "work." Merritt has called attention to the lowly origin of the surgeon and his barber progenitor—the barber-surgeon. The artisan-dentist was his contemporary as well as his competitor in the extraction of teeth and it is interesting to note that the dentist usurped the business. In this connection it is fair to state that the physician—the doctor—had not yet reached the high ethical standards we recognize to-day.

An ideology of dentistry may never be written, but ideas may be identified by acts and events, particularly by language. The adoption of words regardless of known and established definition has been a failing of dentists since before the appearance of the history of dentistry.

Long before the formula "dentistry is a profession" began to stir the interest of the dentists, they had adopted the title "Surgeon-Dentist." It appeared upon their business signs. The title "Doctor" was a usual form of address by one dentist to another. Usage fixed its place, long before the college degree existed. "Doctor of Dental Surgery" was inevitable (also deplorable) but the dentists demanded it for it fulfilled their conception of the dignity of a profession. Again, objective thought! Primitive!

And what is the material of dental art as it is understood and practised? The monthly statement of accounts from one's own dental supply house will provide a material inventory. The character of the material is lifeless. That fact alone identifies dentistry, as now comprehended, as a technological profession. Thus we may comprehend medicine as a biological profession, but such ideas are already fading. A new formula has been introduced and has penetrated thought. The signs of its potency are already apparent. "Dentistry is a branch of the healing art, co-equal to a specialty of medicine." As a definition the idea is absurd, but as a formula, "a guide for thought and action" it is an ideal. The dentist's first revolution was projected by the formula "dentistry is a profession" which required a century of years. A trade became a profession—and here we are.

A fearsome reader of this article may ask himself "What will become of operative and mechanical (now prosthetic) dentistry? Will these die?" The name will die, as "mechanical dentistry" is already dead and "operative dentistry" never existed as a subject. It has always been a field of knowledge existing without boundary, originally planned for purposes of personal ego display, wandering intellectually and quite uncontrolled. Prosthesis is a subject—capable of being taught as a subject. The definition of



prosthesis applies equally to medical surgery and to dentistry. It is "the making of artificial parts and the fitting of them to the living body." The objects of medical and surgical interest appear as an artificial eye or leg; dentistry's interests appear as a crown or a filling or a set of artificial teeth, either part or whole. All is prosthetic.

It may properly be observed in passing from this revolutionary idea that when "filling teeth" is taken away from the professor of operative dentistry, the chair and the title will pass. *Bien entendu*.

But how is dentistry to become a "branch of the healing art co-equal to a specialty of medicine" without losing "professional autonomy"? That's politics—not peanuts. Dentistry will ever be

protected by its own statesmen, which department of dentistry is highly developed. If the dental politicians have their way, medicine may become a branch of dentistry; that's no joke. This article is not a reality, it is a dream. "Revolution" is an alarming term and so is "radical." As here used they apply only to science. Every scientist is a radical—"one who carries his theories or convictions to their furthestmost application." Dentistry "a branch of the healing art" must develop its own biologic science. It must be in philosophical accord with the basic or general principles of medicine, the healing art. Dental physiology can interpret both dental disease and dental health. Technology cannot, for health can neither be made nor fitted.

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### *Conventions*

THIRTEENTH ANNUAL FALL CLINIC OF THE MONTREAL  
DENTAL CLUB, SEPTEMBER 22-24.

EASTERN ONTARIO DENTAL ASSOCIATION, CHATEAU LAURIER,  
OTTAWA, OCTOBER 4-5.

THIRTEENTH GREATER NEW YORK DENTAL MEETING,  
NEW YORK CITY, DECEMBER 6-10.

AMERICAN DENTAL ASSOCIATION, ST. LOUIS, MO.,  
OCTOBER 24-28, 1938.

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### *Habits*

*In the acquisition of a new habit, or the leaving off of an old one, there are four great maxims to remember: First, take care to launch yourself with as strong an initiative as possible. Second, never suffer an exception to occur until the new habit is securely rooted in your life. Third, seize the first opportunity to act on every resolution you make. Fourth, keep the faculty of effort alive in you by a little gratuitous exercise each day, that is do every day or two something for no other reason than that you would rather not do it, so that when the hour of dire need draws nigh, it may find you nerved and trained to stand the test.—William James in "Psychology."*

# Syphilis and Dentistry

## WITH ESPECIAL REFERENCE TO PROPHYLAXIS AND TO THE RECOGNITION OF INFECTIOUS LESIONS\*

by FRANK E. CORMIA, M.D.,

*Associate in Dermatology, Royal Victoria Hospital, Montreal.*

THE diagnosis of syphilitic lesions in and about the oral cavity is of importance to the dental profession for three reasons: first, the prevention of extra-genital chancres on the fingers from contact with infectious lesions; second, the early reference of the syphilitic patient so that adequate medical treatment may be given, and third, the fact that syphilitic lesions may be associated with, or occur as a result of, certain operative dental procedures.

The relationship between latent and late syphilis, without the presence of oral lesions, and the practice of dentistry, is far less apparent. Recognition of this type of syphilitic patient is obviously impossible in routine dental work, and undoubtedly thousands of such patients are treated by dentists each year, without harm to either the patient or the dentist. Definite proof as to whether or not the mouth of a patient with latent syphilis is infectious has not been advanced, the evidence at the present time being to the contrary. There is reason to believe, however, that this type of patient is non-infectious while receiving anti-syphilitic treatment. In certain cases of delayed union of mandibular fractures, of chronic osteoperiostitis around the socket of a recently removed tooth, and of occlusive maladjustments due to peri-oral syphilitic gummas, the recognition and treatment of the syphilitic process is of prime importance to the dental surgeon. These in-

stances are, fortunately, comparatively rare, and do not fall into the province of the general practising dentist.

### ROUTINE DENTAL PRECAUTIONS

Routine dental precautions are of especial value in the prevention of extra-genital primary lesions on the fingers of the dentist. Prophylactic measures should include the following essential procedures:

1. A thorough preliminary examination of the lips, mouth, and throat of all patients. Of all precautionary measures this is undoubtedly the most important. It should include a complete inspection (not palpation) in good light, of the outside of the lips, the inside of the lips, everted successively by the patient, the buccal mucosa, the hard and soft palate, the dorsum, sides and ventrum of the tongue, the floor of the mouth, and the throat—in addition to the usual examinations of the teeth and gums. All lesions should be considered potentially syphilitic unless, (a) the examiner is familiar with the condition presenting (for example the benign Fordyce's papules representing aberrant sebaceous cysts and so commonly seen in normal individuals), or, (b) the lesion has been pronounced non-syphilitic by a competent medical consultant.

2. The skin of the hands should be kept intact. Abrasions, fissures, areas of eczema or of novocain dermatitis serve as

\*Presented to the Montreal Dental Club, March, 1937.

easy portals of entry for the spirachaeta pallida, the intact skin being much more resistant to its entry. Even though the mouth be clear the blood may contain spirochaetes, and care should be taken to prevent blood from bleeding sockets from coming in contact with such abrasions or injuries. In such instances the consultant should be seen at once.

3. A routine blood Wasserman reaction should be performed before all operations. With the modern, sensitive type of procedure, from 80 to 90% of syphilitic patients will be recognized. It is important to remember, however, that the positive Wasserman reaction establishes only the presence of the disease; and although usually positive in infectious cases, is not a guide to infectiousness. In the cases of muco-cutaneous relapse, for example, in which mouth or genital lesions are seen after inadequate anti-syphilitic treatment, the Wasserman reaction is frequently negative. Similarly, from 30 to 50% of buccal extragenital primary lesions occur in the presence of a negative Wasserman.

4. Patients with latent syphilis, and those with late visceral manifestations, are not dangerous if (a) gloves are worn, (b) instruments are thoroughly sterilized after operation, and (c) the hands are washed with tincture of green soap and then rubbed with 30% calomel ointment for 15 minutes.

5. In certain instances after contamination by a bleeding socket, a rapid diagnosis of syphilis may be desirable. Rein and Feldman<sup>1</sup> have recently devised a practical and easy scheme for this purpose. Blood is obtained by pipette from the bleeding socket, and then a Kline exclusion precipitation diagnostic test is performed. This procedure requires only a microscope and the prepared syphilitic antigen, and can be read within a half hour. Details will be found in their excellent summary.



FRANK E. CORMIA

6. It should be remembered that the usual infectious lesions are rapidly made non-infectious by treatment with neosalvarsan. Therefore, should dental work be imperative in an infectious patient, 2 to 3 injections of neosalvarsan, in addition to the measures listed under (4), may be considered as adequate protection.

#### EXTRAGENITAL SYPHILITIC LESIONS IN DENTISTS

Although extragenital chancres are much less frequently seen in dentists than in physicians, this distressing complication does occur, and constitutes one of the major risks to the dental profession. Salzmann and Appleton<sup>2</sup> have recently summarized a group of such cases. They found that abrasions were definitely pre-

disposing and that the usual sites were the tips of the three middle fingers of the left hand. Tragically enough, many of the cases went unrecognized for many months, often until general signs and symptoms supervened. A brief description of extragenital finger lesions may be of value to arouse a higher index of suspicion for these often benign and insignificant appearing beginnings.

The finger chancre is usually a relatively indolent and painless lesion. It is frequently paronychia, the paronychia tissues being dark red in colour, slightly elevated, dry, and accompanied by a very scant peri-ungual discharge. At times the fingertip may be granulomatous in appearance and often a mistaken diagnosis of sarcoma is made. I have observed two cases in which only a pea sized, dark reddish nodule was present, in one instance over the terminal, and in the other over the second joint of the left index finger. Both of these lesions were painless, were considered furuncular, and were treated by surgeons until the secondary eruption and general malaise appeared.

Cases have been reported where syphilitic infection occurred through a needle prick, without the development of a primary lesion (syphilis d'emblee). If the finger has been pricked by a contaminated needle, 30% calomel ointment should be rubbed in for 15 minutes. It is also wise to have the blood Wasserman test done once weekly for four weeks, and following that, once monthly for four months. Under no circumstances should neosalvarsan be given, unless a definite diagnosis of syphilis has been made.

#### CONSIDERATION OF THE ORAL LESIONS OF SYPHILIS

The dentist is interested primarily in the diagnosis of the early infectious syphilitic lesion. The late gumma, the occasionally occurring diffuse interstitial glossitis, and the rare, late, nodular

syphilid, are of only academic importance. These cases will be referred to the consultant physician, for though late syphilis of the mouth is not infectious, its differentiation, particularly of gummatous lesions from the phagadenic chancre, is at times difficult. Most of these late lesions involute very rapidly after a few injections of bismuth, and dental intervention is then permissible. The chief danger of operative procedures on such cases, without preliminary anti-syphilitic treatment, is in the possibility of the development of other late lesions following trauma. Gummas, osteo-periostitis, or even osteomyelitis may occur, and may prove resistant to therapeutic measures.

Infectious lesions in the oral cavity differ considerably from those occurring elsewhere on the body. Many of these lesions, and especially those of the secondary eruption, are relatively small and inconspicuous, and are often dismissed as cuts or simple abrasions. They are frequently mistaken for the common "cold sore." In a large proportion of cases the dry, uneroded, syphilitic lesion on the glabrous skin of the body is non-infectious. In the mouth, however, the papules become softened and macerated, superficial erosion results, and the benign dry papule of the trunk becomes the highly infectious mucous patch. The initial primary syphilitic chancre, no matter where its location, is always a potential source of infectiousness. At times it contains few or more rarely no spirachetes, being merely the initial tissue reaction to the spirachete, which has left its local site, and become disseminated in the lymphatic circulation. As the chancre heals it often appears as a simple nodule. If it is dry it is probably non-infectious. The lip or mouth chancre, however, has been softened and moistened by the natural conditions obtaining in the mouth, and the chancre approaches the mucous patch as an infec-



tion spreader.

The chancre may be small and erosive, it frequently ulcerates, and at times, due to secondary infection, it becomes hypertrophic in nature. It is usually located on the lips (75%), and here is apt to be large, with a correspondingly large satellite adenopathy. It is frequently confused with cancer, since in both conditions there is induration, slow growth, and lymphatic enlargement. In cancer the advanced age of the patient, the small, hard, lymphatic enlargement, and the rolled, pearly border, are important features. A furuncle often resembles the chancre, but the acuteness of the lesion, and the accompanying pain and suppuration are distinguishing points. An indolent herpes simplex may be differentiated by the burning pain, and by the history of previous vesiculation on an inflammatory base. The chancre is never primarily vesicular.

On the tongue the chancre is frequently erosive or ulcerative in character, and resembles the tuberculous lesions which follow inoculation from infectious sputum.

Chancres are occasionally seen on the tonsil, where they occur as a unilateral, firm, elevated, greyish plaque, often with ulceration. The main differential consideration is from Vincent's angina, but in this condition, high fever, salivation, and diffuse adenopathy are present, and there is often an associated involvement over the mouth and gums. It is important to bear in mind that Vincent's organisms may contaminate both syphilitic and malignant lesions, and when found without local necrosis, hemorrhagic crusting, ulceration, and the clinical symptomatology, should not be regarded as diagnostic.

There is a rare type of chancre which occurs on the gums as an erosion or a superficial ulceration on the labio-buccal surface of the gingivae. While this

lesion as such can rarely be diagnosed, the possibility of its occurrence should be kept in mind, and the fallacy of dismissing small, erosive gum lesions as a simple infection should be avoided.

The oral lesions of secondary syphilis are highly infectious. The commonly seen lesions are either macular or papular in nature. Occasionally annular, macular lesions may be seen on the hard palate. The macular eruption is usually that of the diffuse syphilitic angina, which has a fairly characteristic clinical picture. The onset is slow and the course is gradual, and the throat is only moderately inflamed. Other signs of oral and generalized secondary syphilis are almost invariably present. A striking feature is the mildness, and frequently the absence of symptoms, the angina being discovered on routine examination. Syphilitic angina must be differentiated from Vincent's disease, streptococcal angina, the occasionally seen agranulocytic type, and the rare gonorrheal stomatitis. In agranulocytic angina both ulceration and weakness are present, there is usually a history of medication with arsenic or with a coal tar derivative, and the blood picture is diagnostic. The familiar picture of oral diphtheria need not be elaborated upon, but a word should be said regarding gonorrheal stomatitis. In this rare disease the entire mucosal surface becomes fiery red, and there are gingival erosions and a profuse, ropy discharge. Chills and fever are present, and there is usually a history of sexual perversion.

The most commonly seen lesion is the mucous patch, which is a small, greyish coloured, eroded, flat papule. It usually occurs on the lips or on the tongue, and literally teems with spirachtaes. It must be differentiated from acute aphthae and from thrush, from chronic Mikulicz's aphthae, and from the oral manifestations of erythema multiforme. In acute aphthae one sees small erosions, covered by a

greyish, fibrinous exudate, with a surrounding inflammatory zone, and having an acute course with burning pain. The Mikulicz's lesions are deeper and more necrotic in type, are associated with a diffuse stomatitis, and are slower in their course. There is usually a history of previous involvement. In erythema multiforme the characteristic lesion is a ruptured bulla, and there is a multiform type of eruption on the face, neck and distal extremities.

The commissural papule is perhaps the most infectious of all syphilitic lesions. This is the split papule of the angles of the mouth. It is dangerous chiefly because of its inconspicuous character, consisting of a small greyish, central figure, with reddish to greyish, lateral papular elevations. Since both streptococci and yeasts can cause an almost indistinguishable type of lesion, a careful examination of the entire mouth, and of the body for the secondary eruption, is of the highest importance.

#### RELATIONSHIPS BETWEEN SYPHILIS, LEUCOPLAKIA, AND CANCER

Much has been said regarding the relationships between syphilis and leucoplakia, or white plaque disease. Stokes<sup>3</sup> says, "When leucoplakia is present look back to syphilis and forward to cancer." In the last analysis, syphilis may be considered as one of the many antecedents of cancer. According to McCarthy<sup>4</sup>, who has recently analyzed 316 cases of leucoplakia, syphilis is a factor in its production only in those patients who have had late interstitial glossitis, with resultant mucosal atrophy and leucoplakia.

Mucosal irritation, particularly from tobacco smoking or chewing, ingestion of alcohol or of hot or spicy foods and liquids, and from Betel nut chewing in oriental countries, is an important contributing cause.

The significance of this potentially

malignant lesion to dentists is that decayed, jagged, or ill-formed teeth, and ill-fitting or rubber vulcanized dentures may serve as additional sources of irritation. In older individuals particularly, these conditions should receive proper dental care at the earliest opportunity.

Leucoplakia appears in the mouth as a dead white, and often somewhat shiny lesion. Early it may be smooth and macular, often with a network arrangement, or as slightly elevated white plaques. It is usually seen on the anterior one half and on the margins of the tongue, at the inner angles of the mouth, and on the buccal mucosa adjacent to the occlusive margins of the teeth. If the leucoplakic patch becomes raised or papillomatous, or shows a more rapid rate of growth, carcinomatous change is imminent.

#### ORAL MANIFESTATIONS OF CONGENITAL SYPHILIS

A discussion on oral syphilis would not be complete without a brief consideration of the lesions and developmental anomalies of congenital syphilis. Of these, the developmental anomalies are of greater interest to the dentist. The radiating scars around the angles of the mouth, the septal and palate perforations, are rapidly being reduced to clinical rarities by the modern treatment of the pregnant woman, and the subsequent development of asymptomatic latent syphilis in the offspring. The predilection of the spiracheta pallida for certain localizations has long been an enigma to physicians and dentists alike. No explanations have been advanced to account for the fact that only the middle incisor and the first molar teeth of the permanent set are characteristically involved. Of these deformities the so-called Hutchinson incisors and the mulberry molars are the best known.

The deformity of the Hutchinson

incisor tooth is caused by an interference with the growth of the middle lobe, with bulging of the lateral denticles and antero-posterior thickening. In contradistinction to the normal tooth, the shape is that of a screw driver tip. Notching of the distal free margin is frequently seen, but is not pathognomonic, as it occurs in other conditions. Its recognition by the dentist is important in both its erupted and non-erupted form. The characteristic shape can be readily seen on X-ray examination of the jaw before the eruption of the permanent teeth, thus facilitating early diagnosis and treatment. This may be of the utmost importance in forestalling the dreaded late complication of interstitial keratitis.

The mulberry molar abnormality is caused by a dystrophy of the cusps, with hypertrophy of the enamel ridges. The characteristic appearance is that of atrophic cusps, huddled together, lying on an expanded base. The bud molar of Pflüger<sup>5</sup> is a modification of the classic mulberry type. In this tooth the cusps and the diameter of the crown are normal, but the cusps are rolled together as in a bud.

Peg teeth, and the so-called Carabelli tubercle which appears on the inner aspect of the upper first molar tooth, are frequently seen in congenital syphilitics, but are apparently a non-specific type of dystrophy. Dental caries, filled teeth, and extractions are of common occurrence, and decay frequently takes place early, with loss of characteristic shapes. Early diagnosis and treatment is especially important in the prevention of these non-specific changes. Even more important are the recent developments in the prevention of specific deformities in the permanent teeth. Recent studies have in-

dicated that although the analages of the incisor and first molar teeth appear in the ninth month of intra-uterine life, the occlusive surfaces are developed throughout the first year of life. Treatment early in life, therefore, should prevent the development of deformities, and Smith<sup>6</sup> has shown that this is actually the case. If anti-syphilitic treatment is begun in the first year of life, only 7% developed Hutchinsonian or mulberry teeth, while if therapy was delayed until after the seventh year, 19% showed these changes.

It has not been the purpose of this communication to completely discuss all of the ramifications between the dentist and the syphilologist. An attempt has been made to emphasize the close relationships between the two specialties, for only by the most ideal type of medicodental co-operation, will the best efforts of each be realized. The keen clinical appraisal by the dentist, with early reference of cases of infectious, of late, or of congenital syphilis, will serve as an important connecting link in the general attack on the protean disease syphilis.

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*Who sees his own mistakes has no time to consider those of others.—Persian Proverb.*

# A Systematic Method For the Preparation of Abutment Pieces

by O. W. SILBERHORN, D.D.S., Chicago.

**P**RELIMINARY to discussing the problem before us, namely, "A systematic method for the preparation of abutment pieces," we should consider the fundamental requirements of abutment pieces, and the requirements of abutment teeth, so that we may visualize the ideal.

To accomplish this it will be in order to consider the typical anatomic teeth from which of course there are many variations in anatomical form. Familiarity with typical forms makes it possible to more readily solve the atypical problems:

1. An abutment tooth must possess maximum strength within itself.
2. It must be supported by healthy tissues at least three-fourths of its root length.
3. It must possess stability.
4. The preparation must be done with a minimum destruction of tooth structure.
5. The preparation must not endanger the health of the pulp or adjacent tissues.
6. The abutment piece must be a reproduction of the natural anatomical form.
7. Its retention features must be mechanically correct to withstand the additional forces and stresses.
8. Its aesthetic features should minimize the objectionable display of gold, without reducing its strength and retention.

The three-quarter crown, the dovetail inlay, and the full gold crown prepara-

tions seem to present the greatest problem to different practitioners. To simplify these procedures and to prevent unnecessary sacrifice of tooth structure, it is advisable to proceed in an orderly manner in the making of the steps and cuts required. One should at all times have a clear mental picture of the finished preparation.

## THREE QUARTER CROWN

An inciso-gingival view of central, lateral and cuspid teeth presents the form of a triangle. The sides only of this triangle are in contact with tooth structure, the apices being at various distances from tooth structure. Particularly should we be cognizant of the fact that the lingual apex be far enough away from the cingulum in order to preserve tooth structure. The manner in which we make the mesial and distal cuts controls the destruction or preservation of tooth structure, and also, the degree of retention possibility.

The incisal bevel is made so that there will be sufficient thickness of metal for protection of the incisal edge and not simply for the purpose of cutting a groove. The cutting of the incisal bevel first, will make it easier to begin the mesial and distal cuts. The bevel is cut somewhat similar to that of bevelling a facing or a Richmond crown. The labial enamel edge will be protected against fracture when this is properly done. (Fig. 1.)

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Read before The Academy of Dentistry and the Hamilton Dental Association  
March 11th and 12th, 1937.



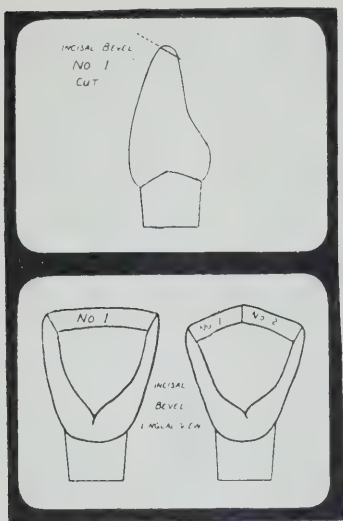


Figure 1.

The mesial and distal cuts are now made in line with the sides of the triangle, but not done so that the flare is removed. The apparent gingival undercut will disappear in the later stages of preparation.

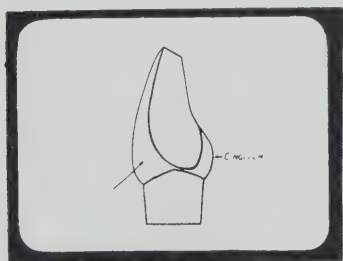


Figure 2.

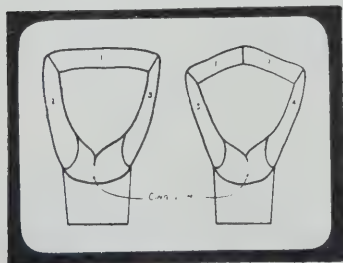


Figure 3.

It is to be noted also that the cingulum is untouched and preserved, and its preservation is emphasized during the steps of preparation. It is the preservation of the cingulum that should be constantly kept in mind. (Figs. 2, 3.)

The true lingual cuts are very important, and are made from the gingival margin of the incisal bevel to the incisal margin of the cingulum. The amount of cutting on these surfaces can be slight since the gold alloy manufacturers have provided finer alloys which have sufficient strength even though used thin. Sufficient clearance of the bite will determine the amount of removal of tooth structure. You will note that here again the cingulum is untouched, and is preserved, and up to this point very little cutting has taken place; the rounded contours of the tooth anatomy have been reduced only to plain surfaces. The structure still resembles the original tooth. At this point the cingulum contour is dressed down by simply connecting the mesial and distal surfaces. The entire cutting need not eliminate the slight undercut still remaining at the gingival line. That is found to be unnecessary because of the direction of position of the mesial and distal grooves now that they differ from former preparations. Here again the cingulum is still practically untouched. From the incisal to the gingival the tooth portion has body and sufficient remaining area for frictional retention.

Before the mesial and distal grooves are cut the entire steps are covered again, by smoothing the surfaces and by removing sharp angles.

This is done with medium garnet disks.

At this stage the preparation represents a smooth tapered and cylindrical picture. This cylindrical portion will vary according to the tooth anatomy. It is to be doubted very much whether there would be as much tooth structure remaining, in

the absence of a systematic method of some kind.

An incisal groove should be made only when, after bevelling, the particular tooth anatomy presents a condition suitable for it. That means in cases where dentine happens to be exposed by proper bevelling, it will still support the labial enamel rods after a groove is cut, otherwise chipping of a ragged enamel edge might occur, and an unsightly appearance will result from an excessive amount of incisal gold or from the gold in the groove showing through. In many teeth an incisal groove cannot or need not be cut, because it is not as necessary as in former preparations on account of the position of the grooves on mesial and distal, and also because of the fact that more tooth structure is retained than before. When a groove can be appropriately made a pencil line may be drawn on the bevel as a guide.

A No. 36 inverted cone bur is used lightly in motion from one end to the other, cutting with the edge instead of sinking the blades. (Fig. 4.) This is

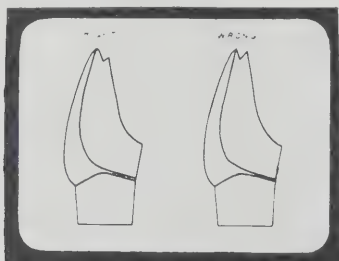


Figure 4.

followed with an inverted cone mounted stone. The labial plane should be longer than the lingual plane so that it will allow proper anatomical contouring of the casting at the incisal; and so that a minimum amount of gold will be visible from the labial. When a tooth presents a thin labio-lingual incisal portion, or if its crown portion is short, a pin may be used in the cingulum in addition to the prox-

imal grooves. This pin must be absolutely parallel to the proximal grooves. The pin is added after the wax pattern is otherwise finished and reburnished on the tooth. The hole is cut in the dentine and inlay wax introduced after which it is attached to the wax three quarter crown. This is much simpler than the former method of adding a metal pin to the wax.

As a further guide in addition to the pencilled bevel or incisal groove, a pencil line is drawn on the proximal surface adjacent to the space which will be filled by the pontic. This line is drawn parallel to an imaginary line or a straight edge on the labial surface of the tooth positioned according to the anatomy of the tooth on approximately the incisal half to two-thirds. The cutting is started at an angle from the incisal line or groove and in line with the proximal marking, and gradually worked gingivally to its limit. (Fig. 5.)

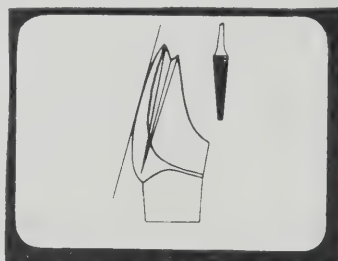


Figure 5.

It is at this point in the preparation that we eliminate the undercut but only lingual to the labial walls of the preparation. The labial view of the preparation will still retain the flare; this makes for less tooth destruction with a more pleasing aesthetic effect, in place of an unsightly display of metal.

One can readily appreciate that the opposite groove cutting and body shaping can be done much more easily at this time by pencilling a line parallel to the groove previously cut and following it gradually to its completion. These grooves

should taper some, with the smallest gauge at the gingival limit. The edge of the casting should extend slightly beyond this gingival limit of the groove. In addition to the use of tapered burs several of the straight chisels are put into use in order to shape the labial walls of the preparation.

When a tooth which is carious or has had a previous proximal filling is to be used for a three quarter crown, a change from the typical becomes necessary. Parallel cavities instead of grooves are employed in such instances. (Fig. 6.)

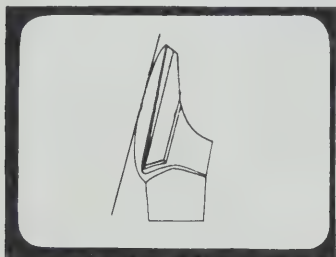


Figure 6.

#### DOVETAIL INLAY

The simple type of dovetail inlay for the anterior teeth is really difficult to prepare unless some system of cutting is adopted. There seems to be a tendency to cut a little in one spot and change over to another and back again until a very ragged cavity results, one which is difficult to straighten out. But, by dividing the problem of an accepted dovetail cavity into three parts, one finds that the operating time is materially reduced and a smooth result follows. From this typical type of dovetail several atypical types can be developed when necessary.

#### GOLD CROWN

The first step in the preparation for a gold crown is the reduction of the occlusal surface for the reception of the occlusal portion of the casting, and also in order

to reduce the vertical dimension for proximal cutting.

The distal proximal surface is better prepared by employing a cup shaped carborundum disc having the grit on the convexity rather than a straight disc or a knife edge stone. The use of the latter tends to produce an uneven or irregular surface. The mesial surface is prepared in a similar manner with a cup shaped disc having the grit on the concavity. (Fig. 7.)

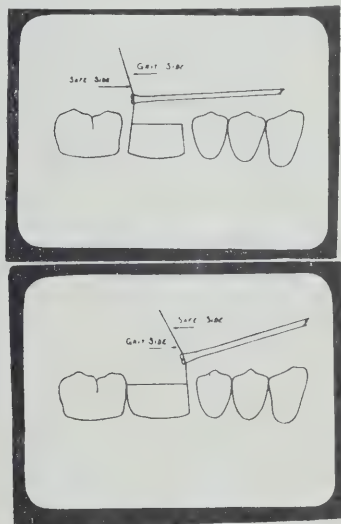


Figure 7.

These discs should be kept in motion in a curved fashion bucco-lingually in order to avoid cutting a flat surface. The buccal and lingual surfaces are easily accessible and may be prepared with the usual types of mounted or unmounted stones.

The resultant preparation should present a smooth finish line instead of a shoulder. This finish line must represent the gingival fit and also the gingival limit of its coronal length. Of course the finish line is a wavy or curved line varying according to its anatomical peculiarities and according to the free gingiva festoon.

When a full gold crown is indicated it

is usually because the tooth presents a broken-down condition due to caries, or to former unsatisfactory restorations, or because the tooth may be so short as to offer little or no retention for other types of abutment castings.

In reproducing the preparation for a die, a copper band is selected to fit snugly at a position three or four millimeters occlusally from the gingival finish line. The gingival edge of the copper band is scribed and trimmed to conform to the curvature of the gingival finish line. At this point it should be necessary to force or press the band gingivally to the gingival finish line. This simple procedure adapts the band to the tooth by stretch, and results in a definite copper band fit at the gingival. Modelling compound or inlay wax is now placed in the open end of the band for the impression of the remaining exposed portion of the tooth. From this point the taking of the bite and

impression is similar to those of a porcelain jacket crown.

The copper band impression is surrounded with one thickness of base plate wax fastened securely; the gingival edge of wax is smoothly trimmed to conform to the gingival edge of the copper band. It is now boxed in with base plate wax so as to develop a handle for the die.

After the copper band impression has been poured with an artificial stone the die will present a shoulder at the gingival finish line. This die can be used to construct the various types of full gold crowns accurately.

When a full cast crown is made the gingival edge of the wax pattern is not trimmed to a feather edge, but rather a flat edge, representing a portion of the shoulder of the die. Subsequently the gold crown casting is finished at the gingival to a feather edge by diskling the outer surface toward the inner.

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### *Convention in Montreal*

The Thirteenth Annual Fall Clinic of the Montreal Dental Club will be held at the Mount Royal Hotel, September 22-24. An excellent program of essays, clinics, topic discussions, exhibits, etc., has been arranged, which will challenge the attention of every dentist, regardless of the nature of his practice.

The Montreal Dental Club extends a hearty invitation to the dentists of Canada and other countries to be present.

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### *Convention in Ottawa*

The Sixtieth Annual Meeting of the Eastern Ontario Dentist Association will be held in the Chateau Laurier, Ottawa, October 4-5. An unusually attractive program has been arranged and a cordial invitation is extended to the dentists of Canada to attend.



# Gadgets

by S. G. McCAUGHEY, D.D.S., Medical Arts Building, Ottawa, Ont.

**D**URING the course of practice many dentists develop pet techniques and gadgets which are a source of joy to them in their work. These, if made public, might also be welcomed by others. In this spirit a few of the writer's "pets and obsessions" are here presented.

The accompanying illustrations do not represent the actual positions to the other devices in the operating room; they have been placed together to have their "pictures taken."

No. 1 is an egg-timer with an adjustable slide for timing 2, 3, 4 and 5 minute periods. At the end of the time period for which it has been set, the glass flops over and rings a bell. The timer is fastened to the wall or cabinet within reach of the operator or assistant. It is much handier than a stop watch for timing amalgam silicates and impressions.

No. 2 is a small nickel-plated bur-block which holds a dozen long and nine short burs or stones. A number of these blocks are kept loaded and the assistant places on the operating table tray the block containing the correct assortment for the operation in hand.

No. 3 is merely a restaurant butter patty. This is routinely placed on the tray for the reception of soiled burs, stones, contra angles, etc.; small things which otherwise cause the tray to be disordered, a second patty is put on to receive amalgam, inlays, bridges or dentures.

No. 4 is an enamelled metal tray, half the size of the operating table. On this is placed a sheet of waxed paper held by ordinary paper clips, the paper being cut to a size which leaves a margin projecting over, and protecting the edge of the metal

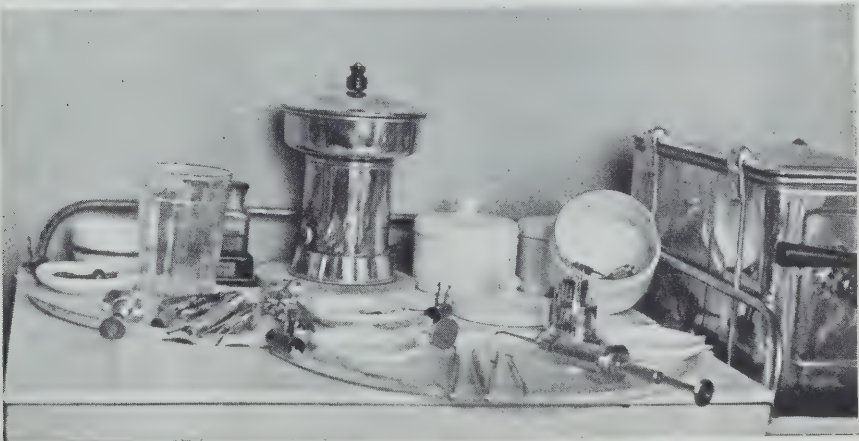


Figure 1.

*The tray on the left is a soiled one and the one on the right is a clean one ready for the operating table. Note the all-metal water syringes which can be BOILED.*

tray from soiled instruments. With one movement the nurse or assistant removes all the soiled instruments to the sterilizing table and places a clean one containing whatever instruments are desired for the next operation. These are great time savers, and maintain cleanliness and order at all times. (Fig. 1.)

The bottles in Figure 2 are an evidence of one of the writer's obsessions; which is the sterilization of handpieces. The contra angle once used, is put into the

sterilizer and BOILED, dried with hot air or on top of the hot sterilizer, then put into a covered dish until there is time to put it on the engine, as shown in the illustration (No. 11) and run first in solubri cleaner then in solubri oil, wiped off with kleenex and returned to the cabinet; boiled and oiled. Contrary to the belief that contra angles cannot be boiled, ten years' experience has proven that they wear longer under this treatment than with that usually accorded

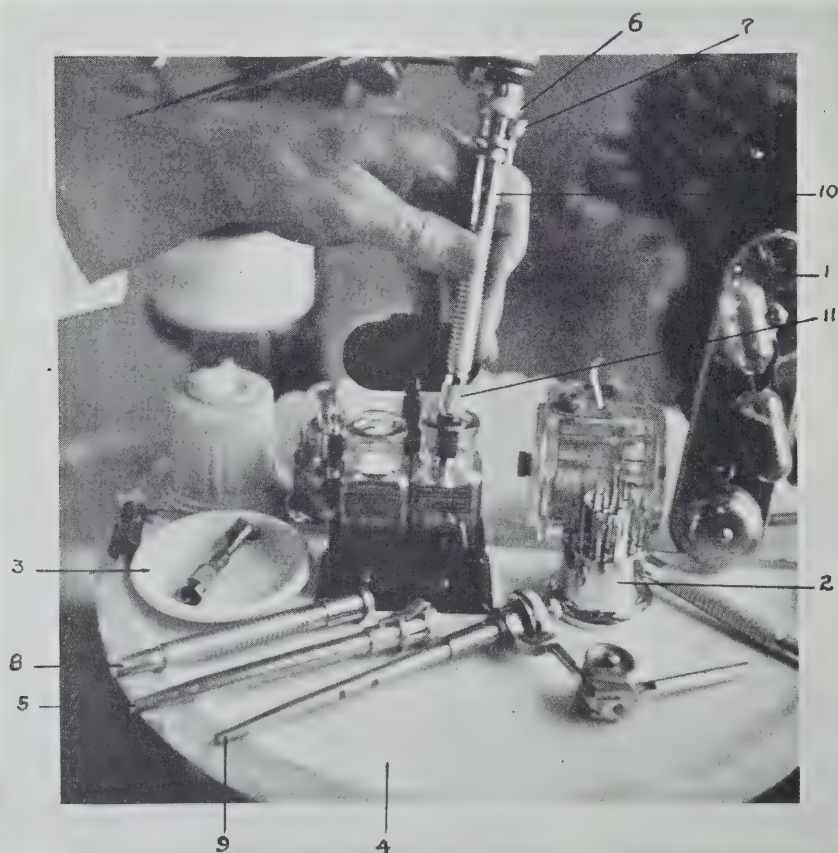


Figure 2.

1. egg timer; 2. bur block; 3. porcelain butter patty; 4. enamelled metal tray; 5. inner sleeve of handpiece device; 6. locknut; 7. latch; 8. outside sheath; 9. Doriot handpiece without sheath; 10. handpiece device assembled; 11. contra angle mounted on straight handpiece being run in cleaner and oil.



S. G. McCAUGHEY AND DAUGHTER

them. The patients never complain of an oily taste nor is "black oil" ever present. This method gives one a sterilized contra angle, instead of a spoon, ladling saliva from one patient to another, since no contra angle can be used in the mouth without becoming saturated with saliva.

The handpiece illustrated is equipped with the writer's handpiece device (Fig. 2.) This consists of an inner sleeve (No. 5) held in place by a lock-nut (No. 6) which carries a latch (No. 7) this latch engaging the outside sheath (No. 8) and at the same time permitting it to revolve freely. The inner sleeve is the oil bearing and it is removed only for lubrication. The outer sheath is instantly removable and replaceable, and as it does not come in contact with oil it can be boiled with the other instruments. The device is adaptable to any ordinary Doriot handpiece (No. 9) and the whole device assembled, (No. 10) is smaller in circumference than the single ordinary sheath. While the device still leaves it necessary to wipe off the pulley with alcohol, it does make possible the easy and *positive* sterilization of that *part of the handpiece* which comes *into contact* with the tissues and fluids of the mouth.

Mentioning the contamination of the pulley brings to mind the fact that many things in our offices are likewise contaminated, and constant watchfulness is necessary to achieve as great a degree of cleanliness as is possible.

By the use of foot pedals for the hand wash basin instead of taps, and a goose neck hand shower, one can avoid the common error wherein the tap is opened by a soiled hand, the hand being then thoroughly scrubbed and immediately recontaminated by closing the soiled tap with the scrubbed hand.

A solution of metaphen in a dish large enough to hold the hand brushes is a great convenience, and certainly more effective than the method of throwing the brush indiscriminately about.

The following combined cleaner and oiler may be used instead of solubri if desired:

|                              |              |
|------------------------------|--------------|
| Oil of Bergamot .....        | 80 drops     |
| Methyl Salicylate .....      | 160 "        |
| Compound oil of Cresol ..... | 320 "        |
| Light Machine Oil .....      | 480 "        |
| Benzine to make.....         | 16 Fl. Oz's. |

Gurling—Drugs—Their Use and Abuse.  
J.A.D.A., March, 1937.



# Report of a Survey of Public Use and Appreciation of Dental Services\*

THIS report is the result of an attempt to get reliable information from the public in different groups of society, as to their use and appreciation of the services the dentist has to offer. Quite often one hears the suggestion that people as a whole do not avail themselves of adequate preventive or corrective dental treatment essential to good health. There would seem to be two aspects to such an assertion: (a) The dentist's viewpoint. (b) The public's attitude. Certainly the percentage of people who have all the dental service they need to place their mouth and teeth in the best possible condition of health and function is comparatively low according to our standard of the ideal.

What about the general public? According to their standard, are they getting all the dentistry they think they need? Have they a genuine consciousness of the value of dentistry in promoting a healthy body? Any answer a dentist might give would only be an opinion based on experience in contacting his patients but would not necessarily reflect the attitude of one layman to another.

It is a commonly recognized fact that continuous dental health education is essential to every community in the interests of health. The best method of approach in presenting our message to the people is always somewhat of a problem and the Public Dental Health Committee of the Toronto Academy was

cognizant of this fact as it set out to prepare its program. During discussion it was agreed that a survey of public opinion, directed to obtain public appraisal of dental service, might be interesting in providing a clue as to the type of educational material needed.

With this end in view a questionnaire was prepared which would obtain the information desired. In order to secure a broad and representative cross-section of public opinion it was distributed according to the following plan:

1,000 questionnaire forms were mailed to purely rural and farm homes scattered throughout southern Ontario.

1,500 questionnaire forms were mailed to six small urban centres, selected by our committee, as being representative of opinion in the smaller towns of Ontario. The towns covered were Brampton, Lindsay, Mitchell, Orangeville, Orillia and Whitby, and approximately 250 forms were mailed to each centre.

800 forms were used in Toronto, because of its importance as the metropolitan city of Ontario, 650 homes in the city area and 150 unmarried workers in offices and stores being visited personally by trained investigators. The homes were divided into the following classifications to cover a wide range of income levels:

50 homes of wealthy families, referred to in report as Class A. (Annual income \$15,000 and over.)

100 homes of well-to-do families, re-

*\*Sponsored and directed by the Academy of Dentistry, Toronto, with the co-operation of the Royal College of Dental Surgeons of Ontario and the Ontario Dental Association, and conducted by the Research Department of the J. J. Gibbons Co., Toronto, during March and April, 1937.*



*Report of a Survey of Public Use and Appreciation of Dental Services*

ferred to in report as Class B. (Annual income \$5,000-15,000.)

350 broad middle class homes, referred to in report as Class C. (Annual income \$2,500-5,000.)

150 working class homes, referred to in report as Class D. (Annual income below \$2,500.)

QUESTIONNAIRE

1. (a) Do you consult a dentist regularly? At what intervals?  
(b) Do you consult a dentist only when you have specific dental trouble?  
(c) How often do you brush your teeth?  
(d) Are you getting all the dental treatment you need? (Yes or No)
2. Do you consider proper dental care essential to general good health? (Yes or No)
3. Designate IN ORDER OF IMPORTANCE (1, 2, 3, etc.), the following reasons why you desire dental treatment:  
(a) To protect your general health, having in mind that diseased teeth often cause ill health.  
(b) To enable you to chew your food properly.  
(c) For the sake of appearance.  
(d) To preserve your natural teeth.  
(e) To prevent possible toothache.  
(f) Any other reason—please specify.
4. If you are not getting all the dental treatment you need, is it because:  
(a) You put off going to the dentist?  
(b) Dental treatment is disagreeable to you?  
(c) You cannot find sufficient time?  
(d) *Necessary* treatment may cost you more than you can afford?  
or  
(e) You cannot afford any dental treatment?  
(f) Any other reason?

5. Have you any children under your care? (Yes or No) Number.....

- (a) Do you consider the care of their *first* teeth important?
  - (b) At what age did you begin your children's visits to a dentist?
  - (c) For which of the following reasons do your children visit a dentist:
    - (1) When you discover a cavity?
    - (2) For care of their teeth at regular intervals?
    - (3) For relief of pain only?
    - (d) Do you know that permanent molars come in back of the first set at about the sixth year?
    - (e) Are your children getting all the dental treatment you think they need?
- If not, why not? (Please specify)

Name .....

Address .....

Number of persons in family .....

Adults..... Children (under 16).....

All replies are held in the strictest confidence. If you prefer, you can omit name and address. But please mail reply in enclosed stamped envelope.

Analyzing the replies received from the foregoing questionnaire, they were grouped in the following order: rural, six small towns, Toronto homes which are tabulated according to income grouping and totalled collectively, and finally the group known as the unmarried workers in offices and stores.

The first table, which follows, presents a record of replies received from the various groups and forms a basis for the survey. It may be suggested that a larger number should be recorded to arrive at definite conclusions but it would appear that definite trends are established and further replies would only emphasize the results obtained.

|                                      | No. of<br>homes<br>reporting | No. of<br>adults | No. of<br>children<br>(under 16) |
|--------------------------------------|------------------------------|------------------|----------------------------------|
| Rural .....                          | 134                          | 353              | 216                              |
| Brampton .....                       | 53                           | 138              | 80                               |
| Lindsay .....                        | 54                           | 110              | 73                               |
| Mitchell .....                       | 48                           | 107              | 52                               |
| Orangeville .....                    | 50                           | 180              | 44                               |
| Orillia .....                        | 73                           | 197              | 66                               |
| Whitby .....                         | 54                           | 135              | 57                               |
| Total six towns.....                 | 332                          | 867              | 372                              |
| Toronto "A" homes...                 | 50                           | 142              | 51                               |
| Toronto "B" homes...                 | 100                          | 275              | 124                              |
| Toronto "C" homes...                 | 378                          | 1005             | 458                              |
| Toronto "D" homes...                 | 150                          | 323              | 297                              |
| Total Toronto homes                  | 678                          | 1745             | 930                              |
| Offices and Stores,<br>Toronto ..... | 130                          | 144              | —                                |
|                                      | 1274                         | 3109             | 1518                             |

In view of the economic condition of the rural areas throughout Ontario during the past few years, and because of the lack of practical dental education in these parts, it was only to be expected that the replies to these two questions received from persons residing in rural communities and on farms would reflect these conditions. Out of a total of 123 persons, 97, or approximately, 80.0 per cent., stated they visited a dentist only when specific trouble obliged them to do so. With farm income rising steadily and

appreciably throughout Ontario, the time would seem opportune for strong educational effort to be directed towards these people, with the two-fold purpose of clearing up the accumulation of dental work, neglected during lean years, and of inculcating the idea that regular dental inspection during childhood and early adult life, will go far to forestall greater trouble, and, consequently, greater expense later.

Each of the six towns shows a considerably higher percentage of persons reporting regular visits to the dentist. These percentages vary from 36.9 to 51.9. But here, too, the same two conditions which operated against the more frequent use of dental services in the rural areas were present in these small urban centres, though to a lesser degree. Three of these small towns have or are in the process of establishing some dental inspection service for school children, and parents, through their children, and the public discussion that arises from the institution of such a service, are gradually being made aware of the importance of taking care of their own teeth. The presence of the dentist also as an active member of the community would serve as a constant

† QUESTION 1 (a). DO YOU CONSULT A DENTIST REGULARLY?

QUESTION 1 (b). DO YOU CONSULT A DENTIST ONLY WHEN YOU HAVE SPECIFIC TROUBLE?

For purposes of more intelligent and easy comparison, the replies to these two sections of Question 1 have been combined, by group classifications, into one table as shown hereunder:

|                                              | Visit Dentist<br>regularly | %<br>Total<br>replies | Visit Dentist for<br>specific trouble only | %<br>Total<br>replies |
|----------------------------------------------|----------------------------|-----------------------|--------------------------------------------|-----------------------|
| Rural .....                                  | 26                         | 21.1 %                | 97                                         | 78.9%                 |
| Total 6 towns.....                           | 153                        | 47.1%                 | 172                                        | 52.9%                 |
| Toronto "A" homes.....                       | 43                         | 86.0%                 | 7                                          | 14.0%                 |
| Toronto "B" homes.....                       | 74                         | 74.0%                 | 26                                         | 26.0%                 |
| Toronto "C" homes.....                       | 213                        | 56.4%                 | 163                                        | *43.2%                |
| Toronto "D" homes.....                       | 31                         | 20.7%                 | 117                                        | *78.0%                |
| Total Toronto homes.....                     | 361                        | 53.2%                 | 313                                        | *46.2%                |
| Unmarried workers in offices and stores..... | 89                         | 68.5%                 | 41                                         | 31.5%                 |

\*—Two persons in each group "C" and "D" reported never having been to a dentist.

†The comments to this question and those that follow from this point on, concerning the compiled tables of replies, are those of the layman in charge of conducting the survey, except the comments in italics which are those of the reviewing committee.

## *Report of a Survey of Public Use and Appreciation of Dental Services*

reminder of the services he has to offer. Nevertheless, taking the average of the six towns as a group, less than half of the persons responding to this survey, report making a practice of visiting a dentist regularly.

In the city of Toronto, where dental inspection and dental practice through the public schools has been thoroughly organized and well established for many years, it is apparent that the majority of people responding in "A," "B," and "C" home classification groups, are fully aware of the importance of regular visits to a dentist, and have put into practice the knowledge gained through their own school training, or, indirectly, through the training of their children.

Many dentists, too, make a practice of sending out "reminder" cards to their clients, and this would tend to encourage the habit of regular visits in those persons who might otherwise be tempted to let matters drift till the necessity for a visit became really urgent. In fact, quite a number of people interested volunteered this as the reason why they visited a dentist regularly.

*Note proportion of regular dental visits.*

1. Only 21% of rural population contacted in six different areas consult a dentist at least once a year.

2. In the large group of people in Toronto earning \$2,500 annually and less, only 20.7% consult a dentist annually.

3. In the group of young people employed in offices and as store clerks,

68.5% of them consult a dentist regularly.

4. In the great middle class, group "C," less than 57% consult a dentist regularly at least once a year.

Naturally, family finances have had a bearing on the ability of the people in these homes to make a practice of regular visits to the dentist. This is clearly demonstrated by the percentage figures shown in the table above, and by frequent comments made to the investigator, particularly in "C" homes, to the effect that though they formerly made a habit of visiting a dentist regularly, they had not been able to do so in recent years, but hoped to resume these visits as soon as "times got better."

The "D" homes in Toronto show the lowest percentage of all of persons reporting regular visits to a dentist. The reason for this is obvious, as this group represents the lowest income level covered by the survey.

As stated in a previous paragraph, it is apparent that income has had a definite bearing on the ability of the people interviewed to afford regular visits to a dentist. It is therefore interesting to note that the group "Unmarried workers in offices and stores," which would logically be classed with "C" income level homes, has, presumably, been able to afford much more regular dental service than the average family in group "C." Of the former group, 68.5 per cent. report making regular visits to a dentist, whilst in the latter group only 56.4 per cent. report

### FREQUENCY OF REGULAR VISITS

|                                              | More than<br>twice a year<br>% | Twice a<br>year<br>% | Once a<br>year<br>% | Less than<br>once a year<br>% |
|----------------------------------------------|--------------------------------|----------------------|---------------------|-------------------------------|
| Rural .....                                  | 3.8                            | 46.2                 | 42.3                | 7.7                           |
| Total of 6 towns.....                        | 15.1                           | 57.4                 | 26.9                | .6                            |
| Toronto "A" homes.....                       | 9.3                            | 74.5                 | 16.2                | —                             |
| Toronto "B" homes.....                       | 14.9                           | 71.6                 | 13.5                | —                             |
| Toronto "C" homes.....                       | 10.9                           | 70.2                 | 16.1                | 2.8                           |
| Toronto "D" homes.....                       | 3.6                            | 53.5                 | 39.3                | 3.6                           |
| Total Toronto homes.....                     | 10.9                           | 69.7                 | 17.5                | 1.9                           |
| Unmarried workers in stores and offices..... | 8.2                            | 60.5                 | 29.0                | 2.3                           |

regular visits. (*Another angle in connection with this unmarried workers group is that of appearance. Good-looking teeth are a great asset to anyone continually meeting the public, and business employees recognizing this fact, are stimulated to take better care of their teeth.*)

Regarding the frequency with which these regular visits to a dentist are made, there is no doubt from an examination of the replies received that six months is the usual interval between these visits. The next most frequent interval of time reported is twelve months, followed in order by "more than twice a year" (usually three or four month intervals.) It is not possible to make a more exact comparison of these time intervals as between rural areas, small town centres, and the metropolitan City of Toronto, owing to the great disparity in the numbers in these respective groups making regular visits, and, consequently, in the numbers reporting the frequency of their visits, for the figures in some cases are too small for true comparative analysis and deduction.

#### QUESTION 1 (c) HOW OFTEN DO YOU BRUSH YOUR TEETH?

For purposes of tabulation, we have included all such answers as, occasionally, rarely, not very often, when going away, etc., etc., under the heading "less than once a day."

The percentages listed in this table

are self-explanatory. It may be noted, however, that in the rural sections the majority (55.1 per cent.) of persons replying brush their teeth only once a day, and that a considerable proportion (16.9 per cent) have established no regular habit at all with regard to brushing their teeth.

In the six small towns, persons reporting brushing their teeth twice a day are slightly in excess of those reporting brushing their teeth only once a day. In these centres a considerable number of people report brushing their teeth three or more times a day, usually after each meal and before retiring.

The majority of all Toronto homes interviewed (54.7 per cent.) report brushing their teeth twice a day, with, again, a considerable proportion of the "A," "B" and "C" homes reporting brushing their teeth three or more times a day.

Twice a day also received the largest number in the group of single workers in offices and stores.

Though it is impossible to say how true it is of the groups as a whole, because the information was not always volunteered, it was frequently noted that the person reporting brushing his or her teeth more often than three times a day had either an upper or lower denture, and more than one person stated it was the denture that determined the number of brushings per day.

#### FREQUENCY OF TOOTH BRUSHING

|                                                 | <i>More than three<br/>times daily<br/>%</i> | <i>Three times<br/>daily<br/>%</i> | <i>Twice<br/>daily<br/>%</i> | <i>Once<br/>daily<br/>%</i> | <i>Less than once<br/>a day<br/>%</i> |
|-------------------------------------------------|----------------------------------------------|------------------------------------|------------------------------|-----------------------------|---------------------------------------|
| Rural .....                                     | .9                                           | 6.8                                | 20.3                         | 55.1                        | 16.9                                  |
| Total 6 towns .....                             | 4.2                                          | 21.2                               | 39.6                         | 31.8                        | 3.2                                   |
| Toronto "A" homes.....                          | 2.0                                          | 26.0                               | 68.0                         | 4.0                         | —                                     |
| Toronto "B" homes.....                          | 6.0                                          | 24.0                               | 59.0                         | 11.0                        | —                                     |
| Toronto "C" homes.....                          | 4.7                                          | 17.5                               | 55.7                         | 21.2                        | —                                     |
| Toronto "D" homes.....                          | —                                            | 14.3                               | 44.9                         | 34.0                        | 6.8                                   |
| Total Toronto homes .....                       | 3.7                                          | 18.4                               | 54.7                         | 21.2                        | 1.8                                   |
| Unmarried workers in<br>offices and stores..... | —                                            | 21.3                               | 59.0                         | 18.1                        | .6                                    |



# Report of a Survey of Public Use and Appreciation of Dental Services

## QUESTION 1 (d). ARE YOU GETTING ALL THE DENTAL TREATMENT YOU NEED?

The replies received to this question are tabulated hereunder:

|                                                | Total<br>replies | "YES"<br>% | "NO"<br>% |
|------------------------------------------------|------------------|------------|-----------|
| Rural .....                                    | 129              | 40.3       | 59.7      |
| Total 6 towns.....                             | 325              | 72.6       | 27.4      |
| Toronto "A" homes....                          | 50               | 98.0       | 2.0       |
| Toronto "B" homes....                          | 100              | 93.0       | 7.0       |
| Toronto "C" homes....                          | 379              | 82.9       | 17.1      |
| Toronto "D" homes....                          | 147              | 52.4       | 47.6      |
| Total Toronto homes                            | 676              | 78.8       | 21.2      |
| Unmarried workers in<br>offices and stores.... | 126              | 77.8       | 22.2      |

If the information revealed by the replies received to this question are representative of the rural sections of Ontario as a whole, it is obvious that a considerable proportion of the people in rural Ontario are in urgent need of dental attention. This serious lack of dental care is all the more disturbing when it is noted, in the following question (see question 2) that 99.2 per cent. of the persons responding in this group stated that they considered dental care essential to general good health.

Of the remaining three groups—the 6 small towns, Toronto homes, and unmarried workers in offices and stores—it is encouraging to find that approximately threequarters of those replying state that they are receiving all the dental care they need. However, looked at from the other point of view, and particularly if our sample is representative of these towns and cities as a whole, as we believe it to be, a condition of real need of dental service exists to a considerable degree in all these places, and among all classes of people, which for some reason or other has not been met. This is especially true of the "D" homes visited in Toronto.

## QUESTION 2. DO YOU CONSIDER DENTAL CARE ESSENTIAL TO GENERAL GOOD HEALTH?

|                                                | Total<br>responses | "YES"<br>% | "NO"<br>% |
|------------------------------------------------|--------------------|------------|-----------|
| Rural .....                                    | 126                | 99.2       | .8        |
| Total 6 towns.....                             | 316                | 99.0       | 1.0       |
| Toronto "A" homes....                          | 50                 | 100.0      | —         |
| Toronto "B" homes....                          | 100                | 100.0      | —         |
| Toronto "C" homes....                          | 379                | 99.0       | 1.0       |
| Toronto "D" homes....                          | 137                | 97.8       | 2.2       |
| Total Toronto homes.                           | 666                | 98.9       | 1.1       |
| Unmarried workers in<br>offices and stores.... | 127                | 99.1       | .9        |

Comment on the replies received to this question is hardly necessary, except to remark that it is highly gratifying to note that there is almost complete unanimity of opinion regarding the value of dental care in the preservation of general good health.

## QUESTION 3. DESIGNATE IN ORDER OF IMPORTANCE (1, 2, 3, etc.) THE FOLLOWING REASONS WHY YOU DESIRE DENTAL TREATMENT

### Reason

- To protect your general health, having in mind that diseased teeth often cause ill health.
- To enable you to chew your food properly.
- For the sake of appearance.
- To preserve your natural teeth.
- To prevent possible toothache.
- Any other reason—please specify.

As it would take up a great deal of space, and would serve only to confuse, if we listed in detail the total replies received to this question, we have tabulated only the final order of choice. However, in order that the basis on which we have evaluated these replies may be clearly understood, it is enough to say that we assigned a value of 5 to each mention of reason "a" as first choice; a value of 4 to each mention of reason "a" as second choice; a value of 3 to each mention of reason "a" as third choice; a value of 2 to each mention of reason "a" as fourth choice; a value of 1 to each mention of reason "a" as fifth choice, and so on for all the other reasons enumerated in the questionnaire:

|                                              | First<br>choice | Second<br>choice | Third<br>choice | Fourth<br>choice | Fifth<br>choice |
|----------------------------------------------|-----------------|------------------|-----------------|------------------|-----------------|
| Rural .....                                  | a               | d                | b               | c                | e               |
| Brampton .....                               | a               | d                | b               | e                | c               |
| Lindsay .....                                | a               | d                | b               | e                | c               |
| Mitchell .....                               | a               | d                | b               | c                | e               |
| Orangeville .....                            | a               | d                | b               | e                | c               |
| Orillia .....                                | d               | b                | a               | c                | e               |
| Whitby .....                                 | a               | d                | b               | e                | c               |
| Toronto "A" homes.....                       | a               | d                | b               | c                | e               |
| Toronto "B" homes.....                       | a               | d                | b               | c                | e               |
| Toronto "C" homes.....                       | a               | b                | d               | c                | e               |
| Toronto "D" homes.....                       | a               | b                | b and e         | c                | e               |
| Unmarried workers in offices and stores..... | a               | d                | c               | b                | e               |
| <i>Other reasons Given</i>                   |                 |                  |                 |                  |                 |

Number of Mentions

|                                                                 |   |
|-----------------------------------------------------------------|---|
| To forestall greater expense later.....                         | 9 |
| To prevent halitosis.....                                       | 8 |
| Cleanliness.....                                                | 6 |
| To prevent rheumatism, arthritis, neuritis, neuralgia, etc..... | 6 |
| To prevent disease in gums.....                                 | 3 |
| To prevent decay.....                                           | 1 |
| To be able to speak properly.....                               | 1 |

118 persons stated these reasons were so inter-dependent that they could not make a decision as to their relative importance.

In view of the answers received to Question 2, it was to be expected that reason "a" would be the first choice of the majority of people answering this question. In all groups and in all places, with the sole exception of Orillia (where it was relegated to third position), the wish to protect general health was the paramount reason given for desiring dental service. Reason "d"—the desire to preserve natural teeth—was designated next in order of importance. There was less agreement in regard to third choice—Reasons "b," "a," "d," and "e" each being assigned to this position by different towns or groups, but it is apparent that the majority placed reason "b" in the third position of importance. Seven groups or places assigned reason "c" and three groups reason "e" to fourth position; whilst the eight groups or places relegated reason "e," and four groups or places relegated reason "c" to fifth position.

Regarding reason "e," a great many

persons stated that the prevention of toothache figured not at all in their reasons for desiring dental treatment, as they had never had a toothache, and did not expect to suffer from it provided they took the necessary care of their teeth.

Of the additional reasons given for desiring dental treatment, nine mentions accorded the wish to forestall greater dental expense later, and two of these nine gave this reason first position in order of importance. The other seven omitted to assign any special position in order of importance to this reason. The other additional reasons given are listed in order of mentions received, though, again, no particular position of importance was assigned to them by the persons answering the questionnaire.

118 persons stated that, in their opinion, the reasons on the questionnaire were so inter-related that they found it impossible to make a decision as to their relative importance.

QUESTION 4. IF YOU ARE NOT GETTING ALL THE DENTAL TREATMENT YOU NEED, IS IT BECAUSE:

(a) You put off going to the dentist?

# Report of a Survey of Public Use and Appreciation of Dental Services

## SUMMARY OF QUESTION 4

|                                         | Total of all<br>reasons given | Reason<br>a | Reason<br>b | Reason<br>c | Reason<br>d | Reason<br>e |
|-----------------------------------------|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| Rural .....                             | 115                           | 12          | 10          | 3           | 63          | 19          |
| Total 6 towns.....                      | 108                           | 15          | 13          | 7           | 40          | 29          |
| Toronto "A" homes.....                  | 1                             | —           | —           | —           | 1           | —           |
| Toronto "B" homes.....                  | 8                             | —           | 4           | 1           | 2           | —           |
| Toronto "C" homes.....                  | 78                            | 12          | 8           | 4           | 46          | 1           |
| Toronto "D" homes.....                  | 66                            | 5           | 6           | 1           | 26          | 27          |
| Total Toronto homes.....                | 153                           | 17          | 18          | 6           | 75          | 28          |
| Unmarried workers in offices and stores | 44                            | 17          | 7           | 3           | 14          | 1           |
|                                         | 420                           | 61          | 48          | 19          | 192         | 77          |

| Additional reasons Given                                         | Total | Mention                    | Place or Group  |
|------------------------------------------------------------------|-------|----------------------------|-----------------|
| Fees too high.....                                               | 4     | Rural (3)                  | Toronto "C" (1) |
| Dentist too far away.....                                        | 3     | Rural (3)                  |                 |
| Still owe dentist bill.....                                      | 2     | Mitchell (2)               |                 |
| Don't like talkative dentist.....                                | 2     | Toronto "C" (2)            |                 |
| Just had operation.....                                          | 2     | Toronto "B" (1), "C" (1)   |                 |
| Available money spent on children's teeth...                     | 1     | Brampton                   |                 |
| Rather spend money elsewhere.....                                | 1     | Toronto "C"                |                 |
| Very poor teeth—not worth expense.....                           | 1     | Orangeville                |                 |
| Dreads going to dentist—faints.....                              | 1     | Toronto "C"                |                 |
| Family dentist died—none chosen yet.....                         | 1     | Toronto "C"                |                 |
| Don't know trustworthy dentist.....                              | 1     | Toronto offices and stores |                 |
| Dentist too rough.....                                           | 1     | Rural                      |                 |
| Welfare department permits only one<br>extraction at a time..... | 1     | Toronto "D"                |                 |
| Getting too old.....                                             | 1     | Rural                      |                 |
| Careless .....                                                   | 1     | Toronto offices and stores |                 |

- (b) Dental treatment is disagreeable to you?
- (c) You cannot find sufficient time?
- (d) Necessary treatment may cost more than you can afford?
- (e) You cannot afford any dental treatment?
- (f) Any other reason?

Examination of the figures given in the foregoing table discloses the information that "fear of probable cost" and "inability to spare any money at all for dental service" far outweigh all other reasons why the persons responding were not receiving necessary dental treatment. This is especially the case in the rural areas, where 71.3 per cent. of all the reasons given were concerned with the lack of funds to pay for necessary dental care. This same condition was found to exist in all groups responding, though to a lesser degree, of course, in the rising income levels. Nevertheless, it is significant that the only reason given

by a class "A" home concerned the anticipated inability to afford the cost of needed orthodontia work, and in two of the eight reasons given by class "B" homes, the probable cost of bridgework figured as a deterrent to a visit to the dentist.

Added significance is given to the condition revealed by the above figures, in the comments frequently made by persons who stated they *were* receiving all the dental treatment they needed. Our investigators reported having to listen to many complaints regarding the high cost of dental service.

Reason "a" was rarely regarded as the primary reason in itself. More frequently it was apparently regarded as the opening phrase of the sentence, "I put off going to the dentist because . . . ." Nevertheless, for purposes of exact tabulation, all mentions of this reason were recorded.

Evidently the discomfort or disagree-

ableness of dental treatment does deter many people from visiting a dentist, even though they have real need of his services. Approximately 10 per cent. of persons replying to this question gave this as the reason why they were not getting all the dental treatment they required.

Concerning the additional reasons volunteered by the persons responding, it would appear that five of them, receiving eight of the total of twenty-three mentions, again concern themselves with financial inability to afford dental services. Three, receiving four mentions, concern the personality and technique of the dentist himself, and the remainder are fortuitous, having no direct bearing on the dentist or the service he has to offer.

*In regard to those who state that dental fees are too high, is it not probable that their dental health was so grossly neglected that when they did consult a dentist, considerable restorative service was necessary? Further, did the dentist use judgment in the type of service suggested or performed? Was it what the patient could reasonably be expected to afford? Was a proper justification of the fee given with a view to establishing a sense of proportion of values and a true appreciation of the service? There will always be some who neglect their teeth and of course neglect is costly. Regular systematic treatment would have minimized this cost and promoted better dental health. The practice of preventive dentistry means the control of dental disease and from an economic point of view*

*would it not relieve the financial burden and still better, preserve the natural teeth longer?*

#### QUESTION 5. HAVE YOU ANY CHILDREN UNDER YOUR CARE? NUMBER .....

The replies received to this question are tabulated at foot of page.

Since question 5 of the questionnaire was designed to secure as much information as possible about the need for, and use of, dental service in its relation to children, we directed our investigators to call upon enough homes containing children to make the replies received concerning them representative of the broader field of the city as a whole. We were also fortunate, in that, of the total returns received from our mailed questionnaire, well over 50 per cent. came from homes containing children.

#### QUESTION 5 (a) DO YOU CONSIDER CARE OF THEIR FIRST SET OF TEETH IMPORTANT?

|                                               | Total<br>replying | %<br>"YES" | %<br>"NO" |
|-----------------------------------------------|-------------------|------------|-----------|
| Rural .....                                   | 87                | 93.1       | 6.9       |
| Total 6 towns.....                            | 209               | 91.4       | 8.6       |
| Toronto "A" homes...                          | 39                | 97.4       | 2.6       |
| Toronto "B" homes...                          | 64                | 100.0      | —         |
| Toronto "C" homes...                          | 243               | 93.4       | 6.6       |
| Toronto "D" homes...                          | 108               | 89.8       | 10.2      |
| Total Toronto homes                           | 454               | 93.8       | 6.2       |
| Unmarried workers in<br>offices and stores... | 8                 | 100.0      | —         |

The answers received to the above question bear eloquent testimony to the educational work concerning children's teeth that has been carried on persistently and consistently by dentists everywhere. To have accomplished such a remarkable change in the attitude of the

#### SUMMARY OF QUESTION 5

|                        | Total<br>homes<br>replying | No. of<br>homes with<br>children | % of<br>total<br>homes | No. of<br>children | No. of<br>homes<br>without<br>children | % of<br>total<br>homes |
|------------------------|----------------------------|----------------------------------|------------------------|--------------------|----------------------------------------|------------------------|
| Rural .....            | 132                        | 91                               | 69.0                   | 281                | 41                                     | 31.0                   |
| Total 6 towns.....     | 323                        | 210                              | 64.7                   | 491                | 113                                    | 35.3                   |
| Toronto "A" homes..... | 50                         | 39                               | 78.0                   | 83                 | 11                                     | 22.0                   |
| Toronto "B" homes..... | 100                        | 64                               | 64.0                   | 127                | 36                                     | 36.0                   |
| Toronto "C" homes..... | 379                        | 243                              | 64.1                   | 483                | 136                                    | 35.9                   |
| Toronto "D" homes..... | 150                        | 120                              | 80.0                   | 335                | 30                                     | 20.0                   |



# Report of a Survey of Public Use and Appreciation of Dental Services

## SUMMARY OF QUESTION 5 (b)

|                          | Under<br>2 years | 2-4<br>years | 5-6<br>years | 7-10<br>years | 11-16<br>years |
|--------------------------|------------------|--------------|--------------|---------------|----------------|
| Rural .....              | 6.5              | 45.6         | 17.4         | 24.0          | 6.0            |
| Total 6 towns.....       | 3.5              | 45.2         | 35.5         | 8.9           | 6.9            |
| Toronto "A" homes.....   | 2.9              | 45.6         | 42.8         | 8.7           | —              |
| Toronto "B" homes.....   | 1.9              | 48.8         | 38.3         | 11.0          | —              |
| Toronto "C" homes.....   | 2.0              | 51.9         | 29.5         | 16.1          | .5             |
| Toronto "D" homes.....   | —                | 7.5          | 63.8         | 21.3          | 7.4            |
| Total Toronto homes..... | 1.6              | 39.5         | 40.9         | 15.9          | 2.1            |

public towards "baby" teeth is truly astounding, for it is only, comparatively speaking, a few short years ago that "baby" teeth were deemed unworthy of a dentist's attention, except in such cases as the child or the child's parents could not extract the teeth themselves?

### QUESTION 5 (b). AT WHAT AGE DID YOU BEGIN YOUR CHILDREN'S VISIT TO THE DENTIST?

The answers tabulated in the following tables are not the total of all replies received to this question. Many mothers of older children could not remember the age at which they first took their children to the dentist, and compromised by making some such statement as, "When their teeth gave trouble," "When their first teeth were extracted," etc., etc. Since it was not possible to assign such indefinite answers to specific age groups, we have omitted them from the following table, in the belief that they would have made no difference to the relative standing of the age groups as listed. And, of course, in many homes, mothers reported children who were too young to be taken to a dentist.

The following figures in percentages indicate the ages at which parents take their children to the dentist for their first visit:

It would appear from an examination of the replies tabulated in the above table that the majority of children in the homes covered by this survey were first taken to visit a dentist during "pre-school" years and when they were in possession of their first teeth. Looking forward to the answers given in response to question 5 (c), and noting particularly the number reporting taking their children to a dentist for regular inspection of their teeth, it is a happy augury for the future dental health of at least a goodly percentage of the coming generation that so many of them were given regular dental care so early in life. However, no matter whether the visit was purely precautionary or because of actual need, it is evident that the majority of children covered by this survey were taken to visit a dentist during that period of tooth formation when preventive dental care is of the greatest value in safeguarding both the temporary and permanent teeth.

## SUMMARY OF QUESTION 5 (c)

|                          | Reason (1)<br>% | Reason (2)<br>% | Reason (3)<br>% | Extraction<br>% |
|--------------------------|-----------------|-----------------|-----------------|-----------------|
| Rural .....              | 38.6            | 32.5            | 25.3            | 3.6             |
| Total 6 towns.....       | 36.4            | 48.7            | 9.0             | 5.9             |
| Toronto "A" homes.....   | 25.6            | 74.4            | —               | —               |
| Toronto "B" homes.....   | 1.9             | 98.1            | —               | —               |
| Toronto "C" homes.....   | 13.5            | *86.0           | —               | .5              |
| Toronto "D" homes.....   | 39.6            | *40.6           | 10.4            | 9.4             |
| Total Toronto homes..... | 19.8            | 74.8            | 2.7             | 2.7             |

\*12% of persons in group "C" homes, and 80% of persons in group "D" homes attributed these regular visits to the dental inspection in the schools.

QUESTION 5 (c) FOR WHICH OF THE FOLLOWING REASONS DO YOUR CHILDREN VISIT A DENTIST?

- (1) When you discover a cavity?
- (2) For the care of their teeth at regular intervals?
- (3) For relief of pain only?

It was somewhat difficult to interpret the answers given to this question. Many people in the small towns and rural sections marked two reasons, and some even marked all three. However, since some of these small towns have dental inspection in the schools, it would, we think, be quite correct to interpret many of these ambiguous answers, where the person responding marked reasons (1) and (2), as meaning that upon discovery of a cavity by the school nurse the child was taken to the dentist to have it filled.

However, in view of the ambiguity displayed by so many of the replies given, we think it would be wiser to refrain from any attempt at exact comparison. Suffice it to say that in the rural areas, approximately two-thirds of the children visit a dentist only when there is real need of his services. In the small towns it would appear that, where there is some dental work carried on in the schools, a greater proportion of the children pay regular visits to a dentist than is the case in those towns where no such service exists; and, in Toronto, except in "D" homes, a high proportion of the children are given regular dental care.

As an interesting sidelight, and as accounting in some measure for the comparatively low proportion of children in "D" homes who receive regular dental care, our investigator discovered that there is a definite belief among a certain proportion of the people in these low income level homes that, as soon as a tooth begins to ache or decay "the sooner it is out the better," and his belief was reflected to some extent in the number

who report taking their children to the dentist to have teeth extracted.

As the tabulation of the answers proceeded, it became apparent that a fourth column would have to be added to take care of those mentioning tooth extraction as the reason for the child's visit to the dentist.

QUESTION 5 (d). DO YOU KNOW THAT PERMANENT MOLARS COME IN BACK OF THE FIRST SET AT ABOUT THE SIXTH YEAR?

|                    | Total<br>replies<br>received | "YES"<br>% | "NO"<br>% |
|--------------------|------------------------------|------------|-----------|
| Rural .....        | 82                           | 81.7       | 18.3      |
| Total 6 towns..... | 195                          | 81.0       | 19.0      |
| Toronto "A" homes  | 39                           | 89.7       | 10.3      |
| Toronto "B" homes  | 64                           | 86.0       | 14.0      |
| Toronto "C" homes  | 226                          | 75.7       | 24.3      |
| Toronto "D" homes  | 91                           | 63.3       | 36.7      |
| Tot. Toronto homes | 420                          | 75.2       | 24.8      |

The answers tabulated above again afford further proof of the effective work being done everywhere by dentists in the areas covered by this survey to increase the knowledge of the general public concerning the formation and growth of children's teeth. Decay and loss, through neglect, were all too frequently the price paid not so many years ago by children whose parents were ignorant of the fact that permanent molars appeared about the sixth year. Though the figures above are very encouraging, it is also evident that still further educational effort is required, particularly among the lower income level groups.

QUESTION 5 (c). ARE YOUR CHILDREN GETTING ALL THE DENTAL TREATMENT YOU THINK THEY NEED? IF NOT, WHY NOT? (PLEASE SPECIFY)

|                    | Total<br>replies<br>received | "YES"<br>% | "NO"<br>% |
|--------------------|------------------------------|------------|-----------|
| Rural .....        | 85                           | 41.2       | 58.8      |
| Total 6 towns..... | 188                          | 78.2       | 21.8      |
| Toronto "A" homes  | 39                           | 100.0      | —         |
| Toronto "B" homes  | 64                           | 100.0      | —         |
| Toronto "C" homes  | 234                          | 96.6       | 3.4       |
| Toronto "D" homes  | 105                          | 86.7       | 13.3      |
| Ttl. Toronto homes | 442                          | 95.0       | 5.0       |

## Report of a Survey of Public Use and Appreciation of Dental Services

### REASONS GIVEN WHY CHILDREN ARE NOT GETTING ALL DENTAL CARE REQUIRED

| Reason                                                       | Total Mentions |
|--------------------------------------------------------------|----------------|
| Can't afford .....                                           | 84             |
| Children have to wait too long to see school dentist.....    | 5              |
| Child nervous of dentist.....                                | 5              |
| School dentist inefficient .....                             | 4              |
| Excessive cost of dentistry.....                             | 3              |
| Orthodontia too expensive .....                              | 2              |
| Just keep putting it off.....                                | 2              |
| Dentist does not believe in filling baby teeth.....          | 2              |
| School dentist refused to extract baby teeth.....            | 1              |
| Three dentists failed to recognize need for orthodontia..... | 1              |
| Should be done at school.....                                | 1              |
| Dentist too far away.....                                    | 1              |
| Recuperating from operation.....                             | 1              |
| Too young .....                                              | 1              |
| Heart condition—can't go.....                                | 1              |
| Child won't go .....                                         | 1              |
|                                                              | <hr/> 115      |

By referring back to the replies given in answer to question 1 (d), it would appear that the children of families covered by this survey are receiving a greater degree of dental care than is the case with their parents. The reason for this situation is not hard to seek. Parents, as a general rule, are only too willing to sacrifice their own needs and requirements, if by doing so they can further the interests of their children.

It is distressing to observe, however, that the majority (58.8 per cent.) of children of rural homes replying to this questionnaire are not getting the dental care they need, especially so, when out of fifty homes so reporting, 45 give as the reason behind this condition as inability to afford the necessary cost.

It is to be noted, too, that the pattern of the replies to this question regarding children follows relatively closely the pattern established by the replies to Question 1 (d) regarding adults.

Comment on the replies received in response to this question is hardly necessary except to say that out of a total of 115 reasons given why their children are not receiving all the dental care they need, 89 concern the question of expense, or lack of means to afford the anticipated cost and this fear of probable cost is

common to all groups surveyed, with the exception of "A" and "B" homes in the city of Toronto.

Of the other reasons given, none received sufficient mention to warrant deductive comment thereon. However, it may be noted that there is some criticism of the operation of school dental services.

*In bringing this report to a close we are more convinced than ever that public dental health education is worth while. This has been amply demonstrated. There are, however, other phases of the report that demand the careful study of every practising dentist, that he may make his contribution in solving the problems involved. It would seem apparent that there are some very definite factual trends to work with, the people in a reasonably representative section of society in Ontario have expressed themselves. A sound basis for extending the scope of dental service has been established. How can it best be done?*

#### COMMITTEE

|                     |                |
|---------------------|----------------|
| G. V. Fisk          | Frank Martin   |
| M. A. Ross Thomas   | T. R. Marshall |
| Dean A. D. A. Mason | E. C. Veitch   |

Reported on behalf of the reviewing committee by T. R. Marshall.

# The Man Past the Forties

by G. W. CALVER, M.D., Captain, Medical Corps, U.S.N., Physician to Congress.  
(Reprinted, by kind permission, from the "Proceedings of the Staff Meetings of the Mayo Clinic, November 4, 1936.)

THE biggest opportunity in medicine today is that of health conservation. A sound body makes for a sound mind. How can we physicians take care of a man who is providing a living for his family or who is filling a peculiar position in an organization and keep him so that his work is effective? He must protect his business and provide for the future. In the study of these cases it might be well for me to tell you about this job of mine. I have been with Congress for eight years. I am in the Capitol during the sessions of Congress. I do not have to be on the floor but I must be available at all times. Shortly after I took this position I found that the biggest field was not first aid, the purpose for which I originally was detailed. I was called to attend men who had passed out on the floor of the House, men with acute cardiac conditions, men with circulatory accidents that resulted chiefly because of the strain of the work they were doing. With these experiences it came to mind that I had better follow the Navy system. In the Navy an annual examination is made. This examination is quite thorough. The officers who could not stand active service, those who might be a liability and cause damage later are sorted out, rehabilitated and returned to duty whenever possible. In this matter of health inventories or health preservation whichever term you prefer, the detailed study of each individual as a separate and particular problem is most important. By that I mean that many things besides clinical findings must be taken into consideration. In the first place, what is the patient's family background? Is the family hypertensive, is it a cardiac family or a family in which pneumonic con-

ditions have occurred? The next factor to consider is the number of hours of work. How much time does a man put on his job? That is most important, because if a man has a job to carry on, he has to put in a certain effort to accomplish his objective. One of the most pernicious elements is bad eating habits. You have no idea how irregular the hours of a man in public life are and how it affects his intake of food.

Another point to be covered is his intake of fluid. It is surprising how many people do not drink enough water. I think one of the biggest causes of constipation is reduction of intake of fluid, with the resultant dehydration of the intestinal content.

Diversion is another matter for attention. What does a man do in his play time? What chance has he got to get away from office worries in the evening?

Last and not least, what is his medical background? Does he have a history of infectious diseases? Has he had rheumatism? What is the condition of the prostate, particularly if men are more than forty? Does he give a history of old infections of the nose and throat and particularly, has there been any trouble with his teeth? I ask about accidents with any sequelae.

We do not look for what you call clinical signs. There are no diagnostic criteria. We are trying to find something that is a preclinical sign, a diagnostic straw that will start us on the right track so that we will be able to help the man and he will be better able to carry on his job.

The examination is divided into two parts. First is a physical examination in my office. I take the history, examine the heart and lungs. I have a very simple



test of cardiac function. I ask the man to hop twenty times on one foot and then twenty times on the other. His activity is a good measure of how fit he is. If the man's blood pressure rises slightly after the exertion and the pulse rate goes up, but returns to normal, his heart is compensating for the load. If the pressure remains the same and the pulse rate increases, that is not so good. If it drops, the man lacks cardiac reserve. Various examinations are carried out: a hemogram is made; a urinalysis is performed; chemical examination is made on the blood; a Kahn test is made; sedimentation time is determined and an electro-cardiogram is made. A dental examination, both clinical and roentgenologic, is made to see if there are any foci of infection. Having completed the examinations I correlate the reports, trying to get in my mind the physical value of the man. I like to know his family just to see what the psychologic background is. I try to inform myself of some of the political situations. He may be "agin the government." It may be hard on him because of the emotional conflict between what he thinks and what his party requires. If a man has a home to go to in the evening, in which he can relax and rest, he can recuperate from his work. If he is a bachelor, the tendency is to sit around the lobby of his hotel, perhaps take a drink or two, smoke and discuss the events of the day. Usually it is late at night before he retires. In the study of laboratory reports I pay the most attention to hematology, the evaluation of nonprotein nitrogen, urea and uric acid; I see that the cholesterol and the carbon dioxide combining power are near the proper proportion. These give valuable information. A graphic curve of the sedimentation rate is most desirable and helpful. If it is reported only as 15 or 18, it may not mean a great deal. The man may have been ill. If

the curve shows a sudden drop and then it levels off, with the same rate it means something is wrong that is worth investigating. Electro-cardiograms are always good but we cannot depend on them too much or read too much in them. There is much that is of value but when you handle men and try to keep them alive, it is better to discount the laboratory tests and consider the human problems. Your recommendations must be based on his life. We must use a lot of common sense. He is a producing and earning individual and if you affect his life so that he cannot make his living, you have destroyed his usefulness to society and his chief means of support. There are a great many men whose business is politics. If they are drastically circumscribed, it means the end of their effectiveness in that field. We must compromise but never beg the question.

The usual recommendations cover five subjects. The first is sleep. A man must obtain relaxation and a definite amount of it every day. He should go to bed and rest at least eight hours each night. Whether he sleeps all the time is unimportant, but if he is taking a load off his circulation, the rest accomplishes something. I do not insist that a man stop smoking unless I have definite evidence that tobacco is affecting his heart. There is nothing that relaxes a man as much as a comfortable chair and a good cigar. It irons many humps and hollows out of the day's work. It is difficult to get a man to drink enough water. To get around that I tell him to take a couple of large glasses of water when he gets up in the morning while he is dressing and it will help him to have a bowel movement before he leaves the house, also telling him to take raw fruit, a stewed fruit and a cooked leafy green vegetable every day. The most important factor in maintaining the health of the man who has passed forty is the

daily bowel movement without cathartics.

In the dietary regimen, the man must be considered. You cannot prescribe for a person who lives in a hotel as you would for one who lives at home. You could not, for instance, tell a man who lives in a hotel to go on a detailed diet for hypertension. Explain the fundamentals of the dietary problem and the classes of food so that he can select intelligently his meals from the bill of fare before him. Such an attitude gives me his co-operation because I am not forcing an iron clad rule on him. There is no better exercise for a man who is more than forty than walking. If he can get it on the golf course, that is great. The man is getting diversion which takes his mind off the little things of business which are most annoying. I think one of the best things I have accomplished was to have a gymnasium built in the basement of the new House Office Building. It is really a play room. Courts for volley ball have been marked out and for handball, table tennis and deck tennis. We also have some regular gymnasium equipment, such as horizontal bars and a punching bag, but if you want a man to take exercise, you must give it in the form of a sugar coated pill. If a man is in the military services, you can put him through setting up exercises, but when a man is not in the service, he must get exercise in such a way that it appeals to him. When the spirit of competition is present, you have the key to the situation, provided a place is easily accessible. It is not so much the question of physical exertion as getting oxygen into the blood. A man who is doing sedentary work, who is only using his mind, has to get help to burn up the ashes of metabolism, and by adding oxygen is the only way that can be done. If the intake of fluid is sufficient, some of these ashes of metabolism may be washed away, but in reality both are required.

The fifth subject is diversion. "All work and no play makes Jack a dull boy." The average congressman comes to work between 8:30 and 9 o'clock. He is in committee meetings from 10 to 12. The session starts at 12 o'clock. From then on he is busy in the House. A bill may take up the rest of the afternoon. If it does not concern his district, he can go back to the office, but usually there are ramifications with which he is interested and he has to stick around. The session is not over until 5 or 6. Then he has to go to his office and sign his mail. The average congressman receives 150 letters a day. They must be opened and sorted. He has to write thirty-five to fifty personal answers. It is very time consuming. Then it is after 7 o'clock. Usually he cannot go home that night and be free. Most of the time he has to occupy himself with some social obligation or he is taking home work from the office.

The bad habits of eating, sleeping and constipation are the greatest obstacles to overcome. A lesser consideration is the feeling of self-importance and martyrdom. This applies to a great many business men, such as the bank president, the man in charge of loans, or the manufacturing executive. He feels that he has the direct policy of the organization to look out for. Unless he works at the thing all day and all night he feels that the institution would not run. If you give a man a balanced routine, his mind will function quicker and he can do more efficient work. In the end, remember that we are dealing with human problems, whether the man is the president of the largest bank in town, or a leading political figure, court justice or mechanic. Our objective must be the conservation of the individual and by that help him to be a useful, productive, efficient citizen for the maximal period of time.

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM:

"Why does high-grade casting gold seem to tarnish in some mouths when the toothbrush cannot reach it? Can anything be done to avoid this?"

## REPLY FROM QUEBEC:

Reasons for high-grade casting gold tarnishing in the mouth and how to avoid it:—

1. Castings insufficiently polished—give casting high lustre with pumice, followed by rouge on lathe.
2. Foodstuffs containing a high content of sulphur, such as eggs, will commonly cause tarnishing.
3. When inlays or crowns approximate compound amalgams, a tarnishing of the gold is noticed.
4. Errors in casting technique due to operator or technician.
  - a. Melting should be done rapidly; slow melting produces oxidation.
  - b. Absolute cleanliness of metal and melting equipment.
  - c. Clean carefully excess buttons which are to be used over again. Gold picks up mineral impurities from investment compound.
5. Modern bridgework should be constructed so that *all* areas are accessible to the toothbrush. Each patient should be given thorough individual instruction with aid of models and toothbrush on

how to keep his or her bridgework spotlessly clean.—*Paul R. Marchand, 1006 Medical Arts Building, Montreal.*

## REPLY FROM NOVA SCOTIA:

Evidently this question has become quite a problem, as a questionnaire has just been submitted from the United States, apparently trying to discover if any particular make of gold is more susceptible than others.

As you know, there are certain people who possess inherent properties, "no doubt varying with their physical condition and tonics, etc., which they may be taking" which make for discolouration of gold worn in the mouth, or even touching the skin. Also certain kinds of lipstick will cause the same thing, as will probably certain drugs as mentioned above.—*W. C. Oxner, Halifax.*

## REPLY FROM ALBERTA:

The question of discolouration of gold in the mouth is a problem that has confronted the dentist for many years. The cause of this discolouration is without a doubt due to the presence of sulphides in the saliva, which are more abundant in some mouths than others. The sulphur content of the saliva is variable, so of course is greater at some periods than others, especially following the ingestion of such foods as fish and eggs which are rich in sulphur.

Then, too, a product of some of the micro-organisms contained in the mouth, such as bacillus coli, is sodium thiosulphate. This sulphate acts on the hydrogen of the mouth to form hydrogen sulphide, which as we all know will discolour even pure gold.

The metals used to alloy gold to increase its hardness such as copper and silver, are much more readily affected by the hydrogen sulphide than pure gold. So the larger the silver and copper content in our casting gold, the greater the discolouration. Platinum and palladium are not affected by sulphur, so these do not discolour. Since all gold solders are alloys, made up of gold, silver, copper and zinc in varying proportions, they, too, change colour in the presence of sulphur.

We cannot prevent the gold from discolouring in the mouth, but we can minimize the effect of this discolouration by explaining the cause to our patients, and impressing upon them the importance of keeping the restorations clean. This discolouration is entirely on the surface and does not penetrate the gold so it can quite readily be removed.

We can also exercise care in the construction of the restorations by using the highest grade gold alloy procurable. Special care should be used in designing fixed bridges, for all surfaces should be accessible to the use of cleansing agencies. Instruct the patient in the use of floss silk and orangewood sticks to aid in cleaning the restorations and the teeth generally. The surfaces of natural teeth stain, too, in

the more or less inaccessible places unless care is exercised in the cleansing to keep them free from deposits. So how much more necessary is the care of artificial substitutes which discolour more readily.

This field presents a splendid opportunity for research work.—*H. A. Gilchrist, Edmonton.*

#### REPLY FROM MANITOBA:

The discolouration of gold in some mouths will usually be found to be due to the formation of a sulphide. It is frequently found in the mouths of those patients who do not take sufficient exercise. The treatment is change of diet and sufficient exercise to cause perspiring more freely.—*H. J. Merkeley, Winnipeg.*

*Question — If a bite wing film shows a slight decalcification at the contact points of a young patient's deciduous molars, would you reduce ammoniacal silver solution on the decalcified teeth and keep the patient under observation?*

This procedure might be attempted where the patient can be observed regularly with radiograms. As a rule, our clinical finding is that much more tissue is decalcified than the radiogram would lead us to expect. We make it a rule, for this reason, to fill the teeth as soon as we observe any decalcification.—*Answered by K. A. Easlick, D.D.S., Ann Arbor, in Journal of Michigan State Dental Society.*

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*The machinery stopped in a large factory, and an expert was summoned. He asked for a hammer. After tapping here and there the machine started. He sent a bill which read as follows: "To tapping machine with hammer, £1. To knowing where to tap, £49. Total, £50."—Medley.*



# The Forum

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## • A DENTAL EXAMINATION OF THE INHABITANTS OF THE ISLAND OF TRISTAN DA CUNHA

By SURGEON LIEUTENANT-COMMANDER (D)  
H. N. V. BARNES, R.N., L.D.S.Brist.

(Condensed from the *British Dental Journal*,  
July 15, 1937.)

THE recent official visit of H.M.S. "Carlisle" to the island of Tristan da Cunha afforded an opportunity to investigate anew the dental condition of the inhabitants of this isolated outpost of the Empire with a view to determining what changes, if any, had taken place during the last five years.

The general habits, characteristics and dietary of the community, which were fully commented upon in a paper written by Surgeon Lieutenant-Commander (D) Sampson, R.N., and published in the *British Dental Journal* in 1932, do not appear to have undergone any radical change, except that there has been an appreciable increase in the consumption of sugar and flour. These commodities, while still regarded as luxuries, are more plentiful than in 1932. Scones and bread are made several times per week and always on Sundays. Nevertheless they are used very sparingly if compared with our own standard.

During the last three and a half years, ten ships (contrast pre-1932) have called at the island. As each of these has brought a liberal supply of necessities, and not a few which may be regarded as luxuries, the general standard of living on the island has improved. Moreover the islanders have enjoyed a greater "luxury index" than hitherto, and under the wise administration of the Reverend Mr. Wilde a reasonable reserve of stores has been built up. Small stocks of boiled sweets and chocolate were evident, but

these are distributed only on very special occasions, such as birthdays, at Christmas, and on other festive occasions. The cultivation of vegetables has also increased, lettuce, beans, beetroot, onions, etc., being grown in season.

From previous reports, it was at once obvious that the condition and mentality of the inhabitants had undergone a marked improvement since the last visit of H.M.S. "Carlisle." The inhabitants have advanced educationally, they appear to be more alert and less reserved than formerly, and a larger proportion of these industrious and interested folk can now read and write. All children over the age of 10 attend school, and in addition, since the arrival of a consignment of tooth-brushes two years ago, the younger element have adopted the habit of cleaning their teeth fairly regularly.

The dental examination revealed several cases of hypoplasia, a few irregularities which are mainly due to overcrowding of teeth, and among the older people general attrition is common. Tartar is present in most cases, giving rise to marked gingivitis which would clear up with scaling. There were also several cases of pyorrhea. All children are breast fed and not weaned until they reach the age of 12 to 15 months.

There has been an appreciable increase in the incidence of dental caries and gingival infections—two children, aged 3, were found, with in one case seven, and in the other case six carious teeth. Both of these children belonged to poor families. Nevertheless, the community as a whole compares remarkably favourably with any similar community in the world.

# SUMMARY OF DENTAL EXAMINATION

We are able to state as a result of the tabulation of the individual charts that:—4,710 individual teeth were examined—divided into 3,906 permanent teeth and 804 deciduous teeth.

|                                               | 1932  | 1937  |
|-----------------------------------------------|-------|-------|
| Total persons examined                        | 162   | 183   |
| Total permanent teeth examined .....          | 3,181 | 3,906 |
| Total deciduous teeth examined .....          | 879   | 804   |
| Total permanent teeth carious .....           | 74    | 179   |
| Total deciduous teeth carious .....           | 1     | 21    |
| Total permanent teeth lost                    | 119   | 245   |
| Total deciduous teeth lost                    | Nil   | 2     |
| Total permanent teeth unerupted .....         | 43    | 82    |
| Gums: Healthy .....                           | 149   | 127   |
| Tartar: None .....                            | 89    | 79    |
| Much .....                                    | 10    | 54    |
| Mouths free of caries or extractions .....    | 130   | 92    |
| Caries: Total per cent....                    | 1.84  | 4.2   |
| Gums: Healthy .....                           | 95.51 | 69.4  |
| Mouths free from caries and extractions ..... | 83.33 | 50.3  |

## • DENTAL EDUCATION

AT PRESENT the curriculum in Dental Education is designed to produce a general practitioner of average and sound ability, and there is no question that some radical changes will have to be made in this respect. Suggested alterations are as follows:—

1. In regard to the selection of candidates. The present idea of a medical preliminary being sufficient to allow a candidate to take a University course, is unsound. He should, in addition, be examined for colour blindness, sense of touch, intelligence test, personality and, above all, be able to present a clean bill of health, hereditarily and otherwise.

2. This curriculum will have to be so changed as to provide for more specialized attainments. To my mind, it is ridiculous to teach a man mechanical dentistry when he is going to be an operator; or to teach him to be an operator when he is going to be a preventionist; or to teach him to be a preventionist when he is going to be a research worker.—By *Norman K. Cox, M.D., D.D.S., in New Zealand Dental Journal, March, 1937.*

## • GUARDING OF CHILDREN'S TEETH

By DAVID W. McLEAN, Los Angeles, California  
*At the A.D.A. Convention held in Atlantic City Dr. McLean suggested the following rules for preventing irregularity of children's teeth.*

1—DON'T allow a baby to lie on its face. The soft, growing bones will grow crooked and the teeth will be misplaced.

2—Don't permit children to lean their faces or chins on their hands or fists. The head weighs 10 to 15 pounds and its weight will warp growing jaws.

3—Don't give a baby a pacifier. All sucking habits cause crooked teeth.

4—Discourage mouth breathing. The flow of air gradually distorts the teeth.

5—Have defective "baby" teeth filled, because premature extraction is a common cause of crooked teeth.

6—After the fourth birthday have the dentist look out for signs of crooked teeth.

7—Give the child plenty of milk, butter, cheese and green leaf vegetables, to harden bones.

## • WHAT THEY LEFT BEHIND

WORKMEN clearing up the stands in the Pall Mall and Whitehall, following the Coronation, found 116 umbrellas, 14 walking sticks, 12 thermos flasks, 16 coats, 12 rugs, 3 cooking stoves, 19 pairs of women's gloves, 4 pairs of men's gloves, 2 suitcases and one set of false teeth.—*The Daily Mirror, London.*



PRINCE EDWARD ISLAND



W. T. Waye, Charlottetown

NOVA SCOTIA



A. W. Faulkner, Halifax

NEW BRUNSWICK



J. F. Edgecombe, Saint John

Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

QUEBEC



F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

MANITOBA



J. F. Morrison, Winnipeg

SASKATCHEWAN



F. C. Harwood, Moose Jaw

ALBERTA



John Clay, Calgary

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## The Writing of Dental Papers

In the circular letter which is attached to rejected manuscripts by one of the largest publishing firms in Japan is found the following:

"Dear Son: Your writings are masterpieces of technique, and your style is incomparable. Okakura Kazuzo, the greatest of the great, wrote no better. From north to south, from east to west there is nobody equal to you. Your writings are good. Permit us therefore to lay them back in your lap. Kindly continue to be our subscriber and we all beg of you to preserve us your benevolence also in the future."

Different indeed is the message received from Soviet Russia:

"Comrade: We have no use for your miscellanies. Should this induce you to discontinue your subscription with us, we remind you of the disposition of the People's Commissars of January 2, 1932, whereby deliberate damage to the state institutions or Five Year Plan is punished with fifteen years penitentiary or hard labour."

In returning rejected manuscripts from the office of the Journal of the Canadian Dental Association, an explanatory letter which would be placed

between these two extremes is written. However, there is often a great temptation to return some of the manuscripts which are accepted for publication, in spite of the value of the message which they contain, because of the lack of care in preparing the article for publication.

In order that there may be a higher standard of manuscript submitted, and in order that the articles accepted for publication may be of greater uniformity, the following suggestions are made with the hope that they may prove mutually helpful:

1. The paper used should be of good weight and the pages should be numbered.

2. The manuscripts should be typed and *double-spaced*.

3. The original copy, not a carbon, should be forwarded.

4. Degrees should follow the name of the author.

5. If the paper has been read before an association or a society, the name of the organization should be given, together with the date and place of reading.

6. The spelling of all proper names should be carefully checked.

7. The use of trade names of products and appliances should be avoided, if possible.

8. Subheadings should be used in lengthy articles.

9. Illustrations and photographs sent in with the manuscript should be carefully packed so that there is no chance of damage in the mails. Photographs are often injured by paper clips.

10. Illustrations should be numbered in the order in which they are to appear, and the author's name should be placed on the back of each.

11. Illustrations should not be pasted to the manuscript but should be enclosed in a separate envelope. Glossy prints are preferable.

12. A descriptive phrase or legend should be furnished for each illustration.

13. Drawings should be neatly made on cardboard, in *india ink*.

14. For the present, the spelling found in the Oxford Dictionary will be followed as far as possible in the Journal of the Canadian Dental Association. This accounts for certain editorial alterations in many papers which are particularly well written, in order to make them conform to a certain "style," which is customary in all publication offices.

15. Finally, in writing a paper on a dental subject, be concise. There seems to be too often a desire to see how long one can make the paper rather than how short. If the writer would remember that the long papers are not read by many or are placed aside to be read before the grate fire on some long winter evening—a good intention which is rarely carried out—a great effort would be made to be concise in writing for publication.

One does not look for everything that has ever been written on a subject when reading an article in the dental journal, but rather for the author's evaluation of certain lines of thought relative to a given problem. The subject should be treated clearly and pointedly so that the reader may obtain



a definite opinion of what is important and what is not, without having to wade through a mass of material encyclopedic in character.

An author may spend a tremendous amount of time preparing his manuscript, but unless he is concise and interjects that personal touch which makes an article intriguing and outstanding, his readers will be few in number and an otherwise excellent piece of work will become lost to the profession.

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## BOOK REVIEWS

### **Principles of Full Denture Prosthesis,**

by E. Wilfred Fish, M.D. Manch., D.D.Sc. Melb., D.Sc. Lond. Third Edition—Revised, with 48 illustrations and stereoscopic plates. 116 pages exclusive of illustrations. Price 12/6 net. Publishers—John Bale, Sons & Curnow, Ltd., London, Eng.

The first edition of this work was published in 1932, and the second in 1933. In the third edition Dr. Fish has introduced a more detailed description of the anatomical relations of the lingual part of the polished surface of the lower denture. Several new plates together with a few new line drawings have been added. For those who have not read the previous editions a short review is given herewith.

Dr. Fish approaches his subject from the viewpoint of the general practitioner, rather than that of the specialist, when he states, "Almost any natural tooth will stabilize a denture infinitely better than all the lore of full denture craftsmanship. It is incomparably easier to render a firm living tooth free from parodontal disease and build a suitably modelled Carmichael inlay on it to take the occlusal thrust of a partial denture than it is to make a moderately difficult set of full dentures." He then offers his apologies to specialists who complain that he does not give elaborate and complicated procedures the place of honour they deserve, but points out that "these methods are too tedious for application to appliances made by a very busy man in a poor district and too full of pitfalls for anyone who has only one or two full denture cases a year in a practice amongst people who come to him because he is expert in saving—not replacing—their teeth."

From such an introduction Dr. Fish then proceeds to show in a practical way how to build stable full dentures. The fundamental principle in the construction of full dentures is that every part of every surface of the denture shall be modelled to fit some part of the patient's tissues or some other part of the denture." He describes the principles of impression taking, which take advantage of all available factors in retention. He divides the denture into three parts — "the occlusal surface,"—"the polished surface" and "the impression surface" and carefully shows the requirements in each. The author describes, in detail, excellent methods of impression taking and shows why each step is required. He then shows what he feels is essential in the setting up of the teeth.

In Appendix 1, six pages are allotted to the treatment of "Flat Lowers". In Appendix 2, the author discusses "Full Dentures Opposing Natural Teeth". Appendix 3, is entitled "Method of Stabilizing a Full Lower Denture which has proved Unstable". Such practical considerations, of themselves, form an excellent contribution to this difficult phase of dental practice.

The fact that so little change has been found necessary after four years is indicative of the excellence of this work.—*Kenneth M. Johnson, Winnipeg.*

### **Juvenile Dentistry—**by Walter C. McBride,

D.D.S., F.A.C.D., Director of the Department of Pedodontics, School of Dentistry, University of Detroit. Published by Lea and Febiger. Philadelphia. Price \$6.00.

We find the second edition of this work greatly enlarged and many excellent illustra-

tions added. It is now a most comprehensive work, as it gives, in detail, almost every procedure in the practice of children's dentistry, even the seldom used operation of root resection.

The new chapters on Dental Anatomy by Nuckolls and Physical Diagnosis by Dwyer are excellent, making the book more useful as a text for dental students.

The chapters dealing with management of the patient, office management and prophylaxis show how to build, conduct, and maintain a practice with young patients. The remaining chapters give in detail operative procedures which have been successful in the author's practice, devoted entirely to children for fifteen years. Space retainers, and the problem of lost and fractured anterior teeth are fully dealt with.

The value of consultation is well known. We can consult with Dr. McBride regarding problems of children's dentistry by turning over the pages of this excellent book.—*Douglas Brown, Winnipeg.*

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**Dental Histology and Comparative Dental Anatomy**—by Rudolf Kronfeld, B.S., M.D., D.D.S., Professor of Dental Histology and Pathology in the Chicago

College of Dental Surgery, School of Dentistry, Loyola University. 195 pages, illustrated with 105 engravings and 10 plates. Cloth. \$3.75, net. Published by Lea & Febiger, Philadelphia.

Primarily, this book is intended to teach the freshman dental student the fundamentals of dental histology in order to provide him with the necessary background that he may proceed intelligently in his dental studies. The work follows the suggestions of the Report of the Curriculum Survey Committee of the Association of Dental Schools in its selection of topics and in the stress placed upon each of them.

The subjects discussed from a histological standpoint include the general distribution of the dental tissues, enamel, dentine, cementum, pulp, periodontal membrane, gingival tissues, alveolar bone and tooth development. Interesting chapters on radiographic interpretation of the normal jaw structures, and Comparative Dental Anatomy are also included.

Dr. Kronfeld is a teacher par excellence, and has brought his talents, as such, to play in producing this excellent textbook. His work is extremely practical in that he has omitted controversial subjects while including those on which the dental student is required to place special emphasis.—*Kenneth M. Johnson, Winnipeg.*

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## CORRESPONDENCE

July 26, 1937.

To Dr. John Clay, Calgary, Alberta.

At the annual meeting of the Alberta Dental Association held in Calgary on July 2, the resolution was passed, that, through you as associate editor of the Journal of the C.D.A., a letter of commendation for the operation of the Journal of the C.D.A. be sent to the staff of the Journal.

It was brought to the attention of the meet-

ing by Dr. Pallen that all officers of the Association and the staff of the Journal serve without any pay, Drs. Garvin and Moore giving approximately half their time to the work, and it was felt that, just as soon as possible, some remuneration should be arranged for these men.

Fraternally yours,

R. A. ROONEY.

Secretary.

(Published by request.)

## NEWS FROM THE PROVINCES

### ONTARIO:

#### C.D.A. Fees

At the meeting of the Royal College of Dental Surgeons held in Toronto last May the question of increasing the annual fees to the Canadian Dental Association was brought to the attention of the members of the Board and discussed by them.

At the present time the Canadian Dental Association receives from the Royal College of Dental Surgeons of Ontario 25c per member per year and a like amount from the Ontario Dental Association, making a total of 50c per member per year. One-half of this amount is used as a subscription for the national journal and the balance towards the expenses of the Association. Many dentists in Ontario think that this is a small amount for a dentist to contribute for membership in the National Association and naturally the activities of this Association are very limited in view of this financial support. One province at the present time is contributing a larger amount per capita than this, and other provinces have gone on record as favouring increased dues to the extent of \$4.00 per year.

This matter was discussed very thoroughly by the Board of the Royal College of Dental Surgeons of Ontario but no definite action was taken. The different members of the Board as representing the dentists of this province are naturally desirous of carrying out their wishes and it was decided that each representative should return to his respective district and try and secure the wishes of the profession, with the idea in view that the matter could be intelligently discussed and a decision arrived at during the fall session of the Board.

Your representative or the secretary of the Board would undoubtedly like to hear from you relative to this very important question.

#### Toronto East Golf Tournament

The annual fall golf tournament of the Toronto East Dental Association will be held at Cedarbrae Golf and Country Club on Wednesday, September 22nd. Tee off at 1.30 p.m. Dinner at 7.00 p.m. Good prizes and

entertainment. Come and see yourself in the movies! Everybody welcome.

For further information telephone Dr. Leon Hipwell, Ge. 2737, or Dr. L. Grose, Ha. 3133.

#### Toronto Academy

The Toronto Academy of Dentistry has plans for the best year in its history. The opening meeting in October will be addressed by Mr. Merle Thorpe, editor of the "Nation's Business." His subject will be "The Future of Business and Health."

### BRITISH COLUMBIA:

#### School Dental Service

The Vancouver civic social service committee has recommended to the City Council the appointment of a special committee to study the application of the School Board, endorsed by the Metropolitan Health Board, for a grant of \$3,000 to pay for dental treatment for the balance of this year, for approximately 1,200 school children in grades seven and eight.

### ALBERTA:

Dr. F. M. Murray, of Moose Jaw, Saskatchewan, is moving to Calgary and will commence practice on the ninth floor of the Southam Building, on the first of September.

#### Alberta Dental Association

The annual meeting of the Alberta Dental Association was held at the Palliser Hotel, Calgary, July 2, 1937. The meeting was presided over by Dr. C. M. Fletcher, of Lethbridge, president of the Association.

Dr. R. L. Pallen, of Vancouver, president of the Canadian Dental Association, attended and C.D.A. affairs were discussed at some length. Dr. Pallen pointed out the value of a national organization to all parts of Canada, and stressed the point that co-operation and assistance from each participating province was necessary to enable the Canadian Association to achieve valuable results. He pointed

out that this Association cannot function without greater financial support from the provinces.

It was brought to the attention of the meeting that Dr. M. H. Garvin, of Winnipeg, and Dr. Stephen A. Moore, of London, Ontario, were sacrificing, without remuneration, a very large portion of their time in the publishing of the "Journal." This situation could not continue indefinitely. The Journal had now proved its worth to the profession, and with more adequate financing could be made an even more valuable publication. In passing it should be mentioned that Dr. Pallen's visits to the various Provincial Annual Meetings on behalf of the C.D.A., have been made entirely at his own expense.

Following Dr. Pallen's remarks the Association passed a resolution that a letter of commendation for the operation of the Journal of the Canadian Dental Association, be sent through the Alberta Associate Editor to Dr. Garvin. The meeting felt that a larger contribution for the work of the C.D.A. should be made by the provinces and that the members of the profession in Alberta should be made aware of this situation.

The officers of the Alberta Dental Association for the ensuing year are as follows: Dr. W. E. Addinell, president; Dr. L. V. Janes, vice-president; Dr. C. M. Fletcher; Dr. A. M. Palmer; Dr. M. L. Moore; Dr. J. M. Dixon; Dr. R. A. Rooney, secretary-treasurer, registrar, Edmonton.

Dr. A. B. Mason, provincial representative to the Canadian Dental Association, and Dr. J. M. Dixon, representative to the Dominion Dental Council, presented reports which were fully discussed.

#### **SASKATCHEWAN:**

Moose Jaw is to lose two of its popular dentists in the near future.

Dr. R. H. McDougall is moving to Victoria where he will open up a practice and Dr. F. W. Murray is moving to Calgary to prac-

tise. Saskatchewan regrets the loss of two men who have been very active in provincial and local dental affairs for fourteen years.

The friends of Dr. A. E. Chegwin, Moose Jaw, will regret to learn that he is in the General Hospital, following an emergency operation for appendicitis. He attended a meeting of the City Council of which he is a member and the next evening was in the hospital. We are glad to learn that he is progressing favourably.

#### **Provincial Dental Council**

The following are candidates for the Provincial Dental Council, election for which will be held next month: Dr. W. W. Irwin, Moose Jaw; Dr. J. L. Connell, Prince Albert; Dr. J. P. Whyte, Swift Current; Dr. E. A. Mounteer, Regina; and Dr. W. F. Smith, Regina.

#### **Relief Recipients in Regina**

Owing to the general crop failure it is being recommended that relief recipients who need dental and optical assistance pay for the cost in future with work.

#### **MANITOBA:**

##### **Golf Tournament**

On August 16 the monthly dental golf tournament was held at Niakwa Golf and Country Club. Dr. Paul Hutzulak qualified for the Ash cup, Dr. L. W. Calbick for the Denco cup and Dr. T. G. McCarthy for the Howard Harris cup.

Each month during the summer the dentists play at one of the leading golf clubs and the man with the low net score in each group qualifies to play off for the cup of that group at the September tournament.



## EMPIRE NEWS

### GREAT BRITAIN:

#### Miner Keeps Teeth in Larder

Alibi for a miner's teeth was given by his wife at Nottingham Assizes when he was accused of biting a policeman during the Harworth colliery village "night of terror".

Her husband's teeth, she said were in their usual place at the time—on the top shelf of the larder. He had only worn them half a dozen times in seven or eight years, she added.

#### British Dental Association

The approximate membership of the Association at the end of 1936 was 4,422. The sum received in members' subscriptions for the year amounted to £12,651 2s.

### NEW ZEALAND:

#### Dental Clinic

The Government is calling for tenders to construct the Dominion's first dental clinic at Wellington.

### Ceylon

Ceylon is taking the teeth of the people into serious consideration. No longer can it be said that the people in the East have better teeth than in the West, for from reports it is shown that in Ceylon at least 76 per cent of the school children suffer from dental defects. Through the energetic offices of Dr. W. Balendra, a campaign has been started to bring the people in the rural districts to a sense of their condition. This was opened by Mr. W. A. de Silva, the Minister of Health. A rural dental van, the first in the colonial empire, has been fitted up, which will travel to all the rural districts and bring dental service to everyone. The Minister declared the van open and sat in the dental chair. Later in the evening, Dr. Balendra gave a lantern lecture. The opening was attended by 5,000 people.—*British Dental Journal*, August 2, 1937.

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## GENERAL NEWS

### Incomes During 1936

During 1936, 89.6 per cent of American family incomes was \$5,000 or less. 9.4 per cent of the families had incomes between \$5,000 and \$100,000. One per cent had incomes of over \$100,000.

80 per cent of the automobile owners in the United States have incomes of less than \$1,500 per year. Statistics furnished by Barron G. Collier Corp. — *A.D.A. Press Release Service*.

### The American Association of Public Health Dentists

The Directors and Assistant Directors of Dental Health Education in State Health Departments and the public health dentists in the U.S. Public Health Service organized, at

the American Dental Association meeting in Atlantic City, what is to be known as the American Association of Public Health Dentists.

### U.S. New National Plan to Combat Cancer

At last the Federal Government is undertaking a comprehensive plan of battle to conquer an untamed enemy which each year kills 140,000 persons in this country—cancer.

More than 400,000 people in this country, the committee found, now suffer from cancer.

Between 1900-1910 there was a 57 per cent increase in cancer deaths; between 1910-20 there was a 39 per cent increase; in 1920-30 there was a 41 per cent increase. Even though there is no gain in the actual prevalence of the

disease, the growing proportion of elders in the population will cause a 50 per cent gain by 1960 in deaths from cancer if treatment remains no better than at present.—U.S. News 7-26-57.—*A.D.A. Press Release Service.*

100 persons. Heart disease ranks second on the list. Figures show that approximately one in every five persons suffers from some chronic malady.—U.S. News.—*A.D.A. Press Release Service.*

### Rheumatism

Rheumatism is America's No. 1 disabling chronic disease, a Public Health Service survey discloses. It incapacitates four out of every

### Dentistry in Yacht

A newspaper in Sweden has equipped a motor yacht as a dental surgery which will be used to serve the seaside resorts.

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## IN MEMORIAM

**Arthur R. Hynes**—of Renfrew, Ontario, died August 5. He was a prominent member and former chairman of the Board of Education and at the time of his death was president of the Renfrew Golf Club. He served on the Board of Managers of Trinity St. Andrew's United Church, and had recently joined the Renfrew Rotary Club. He was also prominent in Masonic and military organizations.

Dr. Hynes is survived by two sisters.

**J. C. Moore**—of Orillia, Ontario, aged 62, died in Toronto, July 21. He was born in Orillia and lived there practically all his life, having retired from practice two years ago.

Dr. Moore was a sport enthusiast. He was an officer in the Orillia Canoe Club and active in the Orillia Horsemen's Association. He was also a keen follower of hockey, baseball and lacrosse. He was a member of the Church of Guardian Angels.

He is survived by his widow, two sons, three sisters and one brother.

**Colin Thomas Campbell**—of Penticton, B.C., aged 57, died in Victoria on July 5. He was born in London, England, and came to this country in 1882. A graduate from the Baltimore College of Dental Surgeons, he practised dentistry in Kentville, N.S., for 20 years and served as a member of the City Council there for several years.

In 1920 Dr. Campbell moved to Penticton, B.C., where he practised until a short time prior to his death. He is survived by his widow and daughter, one brother and one sister.

**Magdelger Mercier**—of Montreal, Quebec, aged 69, died August 11 after a long illness. He graduated from Joliette College and studied dental surgery at Laval University. He was founder of the Société du Bon Parler Français and first president of the Société des Gens de Littres de Montréal. Dr. Mercier is survived by his widow, a daughter and a brother.

**Edward Henry Eidt**—of Stratford, Ontario, aged 72, died August 16, after a long illness.

Dr. Eidt had carried on a dental practice in Stratford for nearly 50 years. He graduated from the R.C.D.S. in 1889. He was secretary of the Board of Education and a leading figure in church circles.

**N. L. Milne**—of Palmerston, Ontario, aged 42, died suddenly from a heart attack August 18. An ardent bowler, he had been bowling on the green the night before, apparently in usual health. He was senior warden of Blair Lodge No. 314 A.F. and A.M., and took a prominent part in the life of the community. Dr. Milne is survived by his widow, two sons and two sisters.

## . . . SECTION FRANÇAISE . . .

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## Eléments d'Anatomie Dentaire Philosophique

par GASTON GUERARD  
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(Extrait de la "Revue Odontologique").

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### INTRODUCTION

L'ETUDE que nous présentons sous ce titre a pour but de combler une lacune dans la série des ouvrages didactiques spéciaux à l'*Odontologie*.

Un traité de ce genre nous paraît en effet sur plusieurs points nécessaire aux candidats à l'examen d'anatomie, il est en outre d'une incontestable utilité pour ceux qui s'attachent aux recherches morphologiques et systématiques concernant l'étude des Dents; enfin en concluant du connu à l'inconnues pages qui vont

suivre apportent des arguments et des matériaux précieux à la biologie générale.

*L'Anatomie dentaire philosophique* ou autrement dit l'anatomie dentaire élevée aux lois générales de l'organisation est seule capable, ajoutons-le encore, de répondre aux *pourquoi* et aux *comment* posés par de nombreux problèmes odontologiques et en particulier celui des anomalies; enfin les préoccupations qui résultent de travaux multiples et récents présentés dans nos revues, nos sociétés scientifiques, voire même au dernier Congrès International, prouvent d'ailleurs

surabondamment l'importance d'une anatomie, comparée qui serait capable de comprendre et saisir les analogies fondamentales dans les différences de forme et de fonction.

Nulle part jusqu'à l'heure actuelle n'ont été cependant réunies et exposées les connaissances premières indispensables à ce genre d'études et de recherches, et cela sans doute en raison de la grande diversité des sciences intéressées. L'anatomie dentaire philosophique se rapporte en effet à l'anatomie comparée fondement de la *zoologie*, elle touche encore à la *géologie* et à la *paléontologie* et nous oblige à de fréquentes incursions dans le *département philosophique*. Demander à chacun de ces domaines les notions susceptibles d'être appliquées au nôtre, démêler ensuite en les expliquant les uns par les autres les phénomènes et les propriétés des organes, telles sont les idées principales qui ont inspiré ces pages, et un mot et par sa manière de grouper les faits, c'est un *chapitre nouveau* que nous voudrions apporter à l'Odontologie, et comme nous l'avons dit déjà, une étude capable de répondre au plus grand nombre dit des énigmes posées par l'observation anatomique. "Si les animaux n'existaient pas, a dit Buffon, l'homme serait moins connu. . . ." Sans anatomie philosophique pourrions-nous ajouter, il nous est impossible de concevoir une théorie générale sur l'organe dentaire, et cette théorie se montre sans aucun doute comme obligatoire à l'achèvement futur des connaissances anatomiques et biologiques spéciales à notre art.

Si nous examinons à présent notre sujet avec attention, nous nous apercevons bien vite que malgré son étendue et la diversité de ses éléments, il n'en est pas moins réellement *un*, et que les parties qui le composent sont bien les fractions d'un même tout et concourent à un but unique. Le plan suivant, qui est celui de

notre étude, va d'ailleurs nous permettre de constater la liaison des faits sans les mélanger. Il comprend tout d'abord deux grandes divisions. Dans la première nous dirons en quelques mots les connaissances indispensables à la lecture d'une *Anatomie dentaire philosophique*. Dans la seconde nous aborderons l'étude comparative des dents à l'aide des tableaux généalogiques des auteurs.

Dans la *première partie* de notre exposé nous emprunterons donc à chaque science qui nous intéresse les données suivantes:

A la *Zoologie*, sa *Classification* ou *systématique*.

A la *Géologie*, son *Classification* .....

A la *Géologie*, son *Tableau des terrains sédimentaires*.

A la *Paléontologie* l'*Histoire généalogique des vertébrés*.

A la *Philosophie* enfin nous demanderons de nous faire connaître la valeur des éventualités *mécanistes* et *non mécanistes* appliquées aux dentures.

Dans la *seconde partie*, nous passerons en revue les débris dentaires fossiles et examinerons leur arrangement à travers les espèces suivant l'ordre enseigné par les sciences esquissées au chapitre précédent, c'est-à-dire en établissant nos comparaisons d'après les organes et leur évolution réelle et non d'après les *idées schématiques en cours dans les débats de doctrine*.

## PREMIERE PARTIE

### 1<sup>o</sup> *Systématique*.

On a donné le nom de *systématique* au mode de classement des espèces innombrables qui jusqu'à nos jours ont peuplé les terres et les mers. Après le *règne* (*règne animal*), on a distingué l'*embranchement*. Celui-ci a été divisé en *classes*, les classes ont été partagées en *ordres*, ceux-ci en *familles*, enfin ces dernières sont composées par les *genres* et les genres par les *espèces*.



A cause du grand nombre des formes on a dû également créer des sous-divisions, sous-embranchements, sous-classes, sous-ordres, etc. . . . mais dans leurs grandes lignes nous désignons ainsi les différentes catégories de la systématique:

|               |                                                                |
|---------------|----------------------------------------------------------------|
| Embranchement | grandes divisions ou catégories supérieures de la systématique |
| Classe        |                                                                |
| Ordre         |                                                                |
| Famille       |                                                                |
| Genre         | petites divisions ou catégories inférieures.                   |
| Espèce        |                                                                |

Nous allons maintenant expliquer cette hiérarchie dont l'importance est considérable quoique négligée par bon nombre de biologistes.

L'embranchement, première division du règne animal renferme toutes les suivantes dans l'ordre que nous avons indiqué, l'embranchement des protozoaires comprendra par exemple tous les êtres unicellulaires; de leur côté les êtres pluricellulaires formeront plusieurs embranchements, nous aurons entre autres, ceux des Invertébrés et ceux des Vertébrés, ces derniers enfin réunissant tous les animaux à vertèbres, doivent seuls nous intéresser.

L'embranchement se divisera d'abord en *Classes*, c'est-à-dire en groupes réunissant les êtres les plus rapprochés par les dispositions générales particulières, telles que les poils et les mamelles, qui ont servi à grouper les mammifères, les ailes et les plumes, qui caractérisent la classe des oiseaux, etc.

Toutes ces organisations communes en se spécialisant davantage ont créé des *ordres*, l'alimentation par exemple a fourni des modes de dentures particuliers et nous a donné l'ordre des carnivores,

des rangeurs, des ruminants.....

Comme on peut s'en rendre compte jusqu'à présent tous les types sont fondés sur l'organisation, il s'agit de formes générales appartenant à certaines parties, telles que les nageoires, les ailes et les pattes.

A présent la forme va intervenir, et nous passons aux catégories inférieures de la systématique avec les *familles*, celles-ci vont se distinguer en effet les unes des autres par un certain aspect général, dans l'ordre des carnivores par exemple nous séparerons la famille des canidés de celle des ursidés, des félidés etc....

Dans les familles nous allons rencontrer d'abord les *genres*, c'est-à-dire les groupes qui diffèrent entre eux par des détails de forme, nous aurons le genre ours, le genre chien...

Enfin dans les genres certaines formes se distinguent les unes des autres par des détails de configuration externe (proportion, stature, couleur...) le genre chien nous donnera l'*espèce* domestique; le genre ours, l'*espèce* maritime.....

Dans le langage zoologique lorsque nous désignons un animal, il est d'usage d'employer deux mots nous dirons: *Homo sapiens, canis domesticus, ursus maritimus*... le premier terme désigne toujours le *genre* et le second l'*espèce*, nous avons par conséquent affaire au genre homo, espèce sapiens; genre canis, espèce domesticus.

Tous les êtres appartiennent donc à la fois à chacune des catégories ainsi échelonnées suivant un ordre hiérarchique, ce qui a permis de les classer dans l'ordre suivant: (1)

|             |              |                                                                     |
|-------------|--------------|---------------------------------------------------------------------|
| Invertébrés | Protozoaires | (corps microscopiques, pas d'organes distincts)                     |
|             | Epouges      | } corps formé de parties disposées en rayon autour d'un centre.     |
|             | Polypes      |                                                                     |
|             | Echinodermes |                                                                     |
|             | Mollusques   | } corps mou                                                         |
|             | Vers         |                                                                     |
|             | Articulés    | } corps formé de deux moitiés semblables, une droite et une gauche. |

(1) Cette classification très rudimentaire n'a pour but que de guider les non initiés dans la lecture des pages qui vont suivre.

|           |   |              |                                                                                                                                                                                                                                                                                                           |
|-----------|---|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vertébrés | { | Poissons :   | <i>cyclostomes</i> (cartilagineux)<br><i>élasmobranches</i> (cartilagineux avec cas de<br>calcification : SELACIENS)<br><i>téléostomes</i> (cartilagineux ou osseux :<br>GANOIDES),<br><i>dipneustes respirant par branchies et pou-<br/>mons.</i> Ossification incomplète.<br><i>téléostéens</i> osseux. |
|           |   | Batraciens : | <i>stégocéphales</i> (b. éteints)<br><i>urodèles-anoures.</i>                                                                                                                                                                                                                                             |
|           |   | Reptiles     |                                                                                                                                                                                                                                                                                                           |
|           |   | Oiseaux      |                                                                                                                                                                                                                                                                                                           |
|           |   | Mammifères : | <i>monotrèmes</i><br><i>édentés</i><br><i>cétacés carnivores</i><br><i>ongulés</i> (cheval, ruminants, <i>Proboscidiens</i> )<br><i>rongeurs</i><br><i>carnivores</i><br><i>insectivores</i><br><i>Primates</i>                                                                                           |
|           |   |              |                                                                                                                                                                                                                                                                                                           |
|           |   |              |                                                                                                                                                                                                                                                                                                           |
|           |   |              |                                                                                                                                                                                                                                                                                                           |
|           |   |              |                                                                                                                                                                                                                                                                                                           |
|           |   |              |                                                                                                                                                                                                                                                                                                           |

Résumons à présent les données qui précèdent et classons par exemple l'ours blanc "*ursus maritimus*" dans la série zoologique, nous dirons que cet animal appartient:

A l'embranchement des *Vertébrés*.

A la classe des *Mammifères*.

A l'ordre des *Carnivores*.

A la famille des *Ursidés*.

Au genre *Ursus*.

A l'espèce *Maritimus*.

L'espèce enfin peut fournir des *variétés* ou *racés*, des *sous-variétés* et des *formes*, la valeur morphologique de ces petites divisions est toutefois de minime importance puisque celles-ci n'intéressent que des détails et non le fond de l'organisation, mais ajoutons-le, elles sont par contre précieuses pour la systématique, car sans elles il serait impossible de nous y retrouver parmi les milliers de formes appartenant à un même type.

Tel est le but de la *systématique*, qui s'efforce de ranger, au moyen de ressemblances ou de différences, tous les êtres connus en les classant dans les catégories distinctes.

## 2° Tableau des terrains sédimentaires.

La connaissance des grandes périodes géologiques étant intimement liée à l'évolution paléontologique, en vertu de ce

principe que les terrains contenant les mêmes espèces fossiles sont du même âge, il est donc nécessaire pour comparer le développement historique des *Dentures*, de savoir distinguer tout d'abord les grandes divisions qui nous conduisent des couches sédimentaires les plus profondes aux plus récentes (1). Nous nous contenterons de les désigner ici sous forme d'un rapide tableau synoptique.

On nomme terrains *archéens* (archaios, ancien) les parties du globe les plus anciennes et dues au refroidissement initial de la nébuleuse terrestre. L'incertitude qui règne forcément sur l'histoire de notre planète aux époques de ces formations primitives ne cesse qu'avec l'apparition des roches sédimentaires et des premiers fossiles et nous distinguons alors quatre ères ou époques.

1° *Ere primaire*.—L'épaisseur des premiers dépôts formés dans les mers est considérable (18.000 m. environ). Des pôles à l'équateur, le climat est uniforme et ce dût être un printemps perpétuel.

Les terrains de l'ère primaire se divisent en:

*Précambrien*;

*Silurien*;

*Dévonien*;

*Carbonifère*;

*Permien*.

(1) Chaque grande époque terrestre a été, en effet, dominée par des animaux différents.

en allant des couches les plus profondes aux plus élevées. L'ensemble de chacune d'elles forme en outre un système <sup>(1)</sup>.

2° *Ere secondaire*.—La surface de la terre se modifie, nouvelles formations sédimentaires dans une période de repos relatif, refroidissement vers les pôles, les mers sont moins chaudes et les saisons commencent à apparaître. Dans le même ordre que précédemment, c'est-à-dire de bas en haut, en citant d'abord les terrains les plus anciens, l'ère secondaire se partage en :

*Trias* (retrait de la mer).

*Jurassique* (dépôts).

*Crétacé* (dépôts de craie).

3° *Ere tertiaire*.—Nouvelles modifications du globe, plissements et éruptions qui édifieront les grandes chaînes montagneuses. Au début, le climat des régions aujourd'hui tempérées est tropical, vers la fin de la période il se refroidit et les zones climatiques sont dès lors établies. Nous rencontrerons les terrains suivants :

*L'Eocène* du grec *eos*, aurore et *kainos*, récent.

*L'Oligocène* du grec *oligos*, peu récent.

*Le Miocène*, du grec *meion*, moins récent.

*Le Pliocène*, du grec *pleion*, plus récent.

4° *Ere quaternaire*.—La terre acquiert enfin son état actuel, et la distribution des espèces animales montre que les climats chauds se sont adoucis. Deux époques principales :

*Le Pleistocène*, *pleistos*, le plus récent.

*L'Holocène*, *holos*, tout récent.

Ce bref tableau des grandes époques terrestres va nous permettre à présent de suivre les apparitions successives des premiers vestiges animaux sur le globe, et

nous ne saurions ignorer toutes ces principales divisions géologiques puisque chaque espèce particulière à chaque période s'annonce toujours par des dents isolées et des fragments de maxillaires.

### 3° Histoire généalogique des vertébrés.

*La dent* représente l'une des archives les plus précieuses parmi les documents fossiles qui ont écrit cette histoire dans les profondeurs de la terre. Grâce à ce témoignage (parfois unique) ont pu être en effet reconstituées des formes, interprétés et solutionnés bien des problèmes jusqu'alors incompréhensibles et demeurés en suspens.

Le domaine où nous allons pénétrer comme celui qui précède est toutefois trop vaste pour supporter une brève description, nous essaierons donc uniquement de présenter sous une forme simplifiée l'infinité variée des formes disparues; des grands faits nous ne donnerons en un mot qu'une vue synthétique et limiterons enfin nos exemples aux formes les plus remarquables et les plus caractéristiques de l'évolution. <sup>(2)</sup>.

Laissant derrière nous l'*Archéen* où demeure enseveli le mystère des origines de la vie, l'*Algonkien* aux vagues débris organiques, et sans nous arrêter non plus au *Cambrien*, cet antique feuillet de l'histoire du monde où se lisent les premiers fossiles, si nous abandonnons dans les profondeurs de la terre *trilobites* et *céphalopodes* <sup>(3)</sup>, et si nous pénétrons d'emblée dans les âges suivants du *primaire*, quel tableau saisissant va nous offrir le grand silence des jours *siluriens*! Nul oiseau dans le ciel, nulle voix sur la terre que celle des éléments au milieu d'une nature inerte.... Au sein des eaux se prépare cependant le gigantesque enfantement de tout un monde.... C'est là que

(1) Nous avons adopté au cours de cette étude l'ancienne classification et l'ancienne terminologie parce qu'elles sont encore aujourd'hui les plus répandues.

(2) Les lignes qui vont suivre ont été extraites d'une étude que nous publierons ultérieurement : *Les commencements du monde*.

(3) Crustacés et mollusques fossiles.

des êtres, jadis sont nés, gélamines rudimentaires et vivantes, presque semblables aux végétaux d'alentour et qui de perfectionnements en perfectionnements allaient se succéder durant des millénaires peut-être, pour réaliser un jour une ébauche de *vertébré*! Événement d'une importance paléontologique que nous n'avons pas besoin de rappeler ici, mais qui va nous intéresser par l'apparition des *premières dents, organes isolés, mâchoires inférieures égarées* nous annonçant, dès le *Silurien*, que des formes plus compliquées vont apparaître. Que sont-elles? Nous sommes maintenant dans un royaume étrange! faut-il les appeler *crustacés* ou *poissons* ces individus aberrants et sans descendance à travers les âges qui vont suivre? C'est le règne provisoire des *Placodermes*, que la Nature dut cuirasser à l'excès pour protéger le monde animé dès sa naissance, dans la crainte qu'une prédominance des organes d'attaque ne réussit à enlever la vie pour un grand nombre d'espèces. Apparus nombreux vers la fin du *Silurien*, l'époque *Dévonienne* les verra sans doute se multiplier, mais parvenus au *carbonifère* ces hôtes incompréhensibles disparaîtront à tout jamais.

La faune des *Poissons vrais* apparaît de son côté sous des formes importantes et nombreuses, *les premiers débris nous montrent des dents déjà bien formées* non seulement pour la préhension mais aussi pour le broiement, l'attaque et la défense, *bien souvent d'ailleurs l'animal n'a pas laissé d'autres traces de son existence au sein des mers.* Dès le *Dévonien* et immédiatement "toutes les classes sont représentées" sauf les poissons osseux ou *Télostéens* qui composent la plus grande partie des poissons actuels.

Il n'existe encore aucun *vertébré terrestre*.

Plus tard, à l'*Anthracolithique* (on nomme ainsi une période qui réunit

*Carbonifère* et *Permien*) nous allons rencontrer *dents et maxillaires isolés qui témoigneront de formes nouvelles*; en effet, l'humidité qui nous est révélée par une végétation tropicale surabondante étant favorable aux *batraciens*, ceux-ci vont apparaître sous la forme des premiers *Stégocéphales* en même temps que se montrent les *Reptiles* les plus primitifs: *Théromorphes* et *Protosauriens*. *Les dents et les maxillaires*, uniques vestiges laissés par les plus anciens des *Théromorphes* offrent, ajoutons-le, un intérêt incomparable, non seulement pour l'anatomie dentaire comparée, mais parce que ces débris intéressent les plus grands problèmes philosophiques, l'origine des premiers mammifères et par conséquent notre propre histoire.

Dès lors et avec rapidité se peuplent les profondeurs des eaux. Les jours primaires déclinent et tandis qu'ils vont s'éteindre, avec eux disparaissent les plus anciens représentants des faunes précédentes. Au *secondaire* nous les retrouvons sous des formes nouvelles et qui vont apparaître en même temps qu'une époque formidable se prépare. Nous allons connaître à présent le théâtre hallucinant des *périodes paléosauriennes*, c'est l'heure des hybrides et des monstres qui feront à la Terre un décor à la fois écrasant et prodigieux. Alors en effet que la végétation s'atrophie et perd sa puissance, la Nature en un colossal enfantement va créer des formes animales à ce point excessives qu'elles devront en mourir.

Durant ces nombreux millénaires, les nouvelles faunes seront comme les précédentes, *nettement différenciées et complètes*, et c'est là une indéniable caractéristique des temps géologiques, chaque âge en effet nous montre des types morphologiques différents et dont l'organisation est sans doute croissante, mais qui



sont "la marque" de leurs époques. Certains reptiles ont pour leur part atteint un tel degré de développement, des formes sont apparues à tel point monstrueuses, qu'il a fallu pour elles créer une classification spéciale. Quelques-uns nous intéressent particulièrement, tels les *Labyrinthodontes* qui vont continuer ceux du primaire et s'éteindre bientôt sans postérité; ces Amphibiens par la structure compliquée de leurs Dents s'éloignent d'ailleurs de tous les groupes voisins, car on ne retrouve pareille conformation ni chez les Batraciens, ni chez les Crocodiliens et le rapprochement à l'égard du système dentaire ne pourrait se faire qu'avec la classe des Poissons.

En marge des formes ordinaires, nous allons encore rencontrer toute une série de monstres qui furent les tyrans des époques secondaires et durent répandre la terreur sur le globe, l'*Ichtyosaure* et le *Plésiosaure* essentiellement aquatiques, c'est la tête du grand animal de Maëstricht le formidable *Mosasaurus*, ni mammifère, ni crocodile, ni poisson et dont la longue queue semble expliquer la légende du serpent de mer. Citons ensuite les *Dinosauriens* dont la découverte devait provoquer une véritable stupeur, mesurant de 17 à 23 mètres; ils durent être assez nombreux, carnivores ou herbivores les *Dinosauriens* connurent des animaux redoutables, le *Brachiosaurus* peut atteindre 36 mètres de longueur, le *Diplodocus*, 24 mètres, *Triceratops* possède un crâne de 2 mètres, triangulaire, etc...

Ce sont enfin les *Ptérosauriens*, reptiles plus étranges encore, munis de véritables ailes et se perchent sur les arbres, tels furent quelques-uns des formidables sauriens des âges secondaires.

Après les Poissons, Batraciens et Reptiles nous savons que l'échelle zoologique appelle la classe des Oiseaux. La Paléontologie à son tour les découvre dans un même ordre et au moment où vont disparaître les reptiles géants. Au Jurassique moyen se montre l'*Archaeopteryx lithographica*, le plus vieux squelette d'oiseau connu, à affinités reptiliennes par sa denture; il s'agit d'une forme aberrante que nous pouvons joindre aux espèces qui vont éclore en assez grand nombre vers la fin du Crétacé et pourvues de dents telles que l'*Ichthyornis* l'*Hesperornis*, etc....

A cette époque lointaine de l'Histoire du monde, un fait d'importance pour nous doit être souligné avant que nous ne passions aux âges tertiaires. Nous voulons parler de la première apparition des mammifères qui cette fois encore nous est révélée par des dents et des maxillaires. De petite taille et d'organisation primitive les mammifères du secondaire (ou mésozoïques) se présentent en effet et en vertu de leur ancienneté comme la souche originelle de toute la classe. On les a réunis sous le nom de *Protothériens* et le premier d'entre eux et par conséquent le plus ancien mammifère connu, est *Dromatherium* (dents et maxillaires) et datant du trias.

A côté de ces mammifères primitifs nous devons citer également les *Marsupiaux* dont le groupe indépendant et polymorphe apparaît isolément sur le continent austral dès le Crétacé, ici encore la denture attire l'attention du naturaliste car elle fera de ces animaux primitifs des insectivores, des carnivores et des herbivores comparables aux ordres correspondants des mammifères ordinaires.

(Suite)

# Revue des Revues

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*The Journal of The American Dental Association and  
The Dental Cosmos*, livraison de mars 1937.

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"L'ARTICULATION DES DENTS ET SA SIGNIFICATION ORTHODONTIQUE", par Harvey Stallard, D.D.S., San Diego, Calif.

Voici une étude bien intéressante et bien approfondie sur les relations de la ligne d'occlusion des dents sur le caractère de l'articulation, tel qu'indiqué par la courbe de Spee.

L'auteur se sert d'un appareil ingénieux appelé "gnathokin", avec lequel il enrégistre les rapports des trajets du condyle et de la courbe de Spee; il déduit de ses recherches que l'orthodontiste aussi bien que le prothésiste a besoin de connaître la position centrique de la mâchoire, les trajets antérieurs et latéraux du condyle, les formes des dents, etc.

"COMPARAISON DE L'EFFET ANESTHÉSIQUE DU CHLORHYDRATE DE PROCAÏNE ET DU BORATE DE PROCAÏNE", par M. L. Tainter, M.D., A. H. Thronson, D.D.S. et S. M. Moose, D.D.S., F.A.C.D., San Francisco, Calif.

Le borate de procaine est considéré d'un rendement supérieur à celui du chlorhydrate de procaine parce qu'il possède un pH qui se rapproche d'avantage de celui du corps humain. A cause de son alcalinité, il est supposé pénétrer d'avantage la substance nerveuse et donner une anesthésie plus rapide et plus profonde: tels sont les résultats des expériences de laboratoire.

Les auteurs se sont chargés de vérifier ces données cliniquement et voici leurs

conclusions: le borate de procaine à 4% n'a pas de supériorité bien marquée sur le chlorhydrate à 2% et comme sa manipulation demande beaucoup plus de précautions que le chlorhydrate, son emploi en pratique courante ne paraît pas justifié.

"L'ÉTAT DE L'AMALGAME ET LA FAÇON DE S'EN SERVIR", par George M. Hollenback, D.D.S., Los Angeles, Calif.

La plupart des recommandations faites au sujet de la manipulation de l'amalgame par les manuels et même les manufacturiers sont incomplètes; par exemple, on n'indique pas assez clairement le genre de pilon et de mortier dont on devrait se servir.

L'auteur présente une étude sur la trituration de l'amalgame et son foulage dans la cavité, méthode qui a pour but de prévenir la contraction et la dilatation de cette substance obturatrice.

"LES MÉDICAMENTS—LEUR USAGE ET LEUR ABUS", par John E. Gurley, D.D.S., F.A.C.D., San Francisco.

L'auteur fait une revue complète de toutes les substances médicamenteuses employées en dentisterie et énumère les raisons qui doivent présider au choix et à l'élimination de chacun de ces remèdes. Il donne clairement son appréciation sincère sur la valeur thérapeutique des substances nouvelles mises sur le marché.

*The Dental Digest*, livraison de mars 1937.

"DIAGNOSTIC DIFFERENTIEL ENTRE UN ABCES PERI-APICAL ET UN ABCES PERI-DENTAIRE", par Milton Hyman, D.D.S., New York.

L'auteur, dans un court article, donne les symptômes marquants du résultat d'infection pulpaire ou d'infection de la membrane péri-dentaire; il nous donne des moyens de ne pas les confondre et la plus importante de ces indications est de s'assurer de la vitalité de la dent. Le pronostic d'un abcès d'origine pulpaire est mauvais, tandis que celui d'un abcès d'origine péri-dentaire est meilleur.

"RESTAURATION ARTIFICIELLE DE TISSU GINGIVAL", par Philip S. Haley, D.D.S., San Francisco.

L'auteur préconise la fabrication d'une pièce de restauration gingivale à base de cellulose pour obvier au désagrément esthétique occasionné par la gingivectomie ou le retrait traumatique des gencives.

Ces petits appareils, qui s'appliquent sur la gencive donnent l'apparence naturelle des contours gingivaux et sont façonnés à l'aide d'une substance thermoplastique et avec technique que le Docteur Haley décrit en détail dans son article.

"LE TRAITEMENT DE LA PYORRHEE AU MOYEN DE L'INCISION ELECTRIQUE", par E. Chapman, D.D.S., Minneapolis.

L'intérêt de ce mode de traitement même et dans le maintien intégral de réside dans l'élimination du sac pyorrhéique par l'intérieur de la poche elle-même de l'extérieur de la gencive.

Avec son appareil, l'auteur peut en outre pratiquer l'ablation de tissu hypertrophié autour des dents et lancer des abcès.

"LES NOTIONS QUE POSSEDENT 1200 PATIENTS AU SUJET DE LA DENTISTERIE."

La rédaction de la revue poursuit son enquête dans le public et donne les réponses recueillies ce mois-ci, à ces trois questions: 1) Quelle est la durée approximative des travaux, que le dentiste exécute dans votre bouche? 2) Une extraction vous paraît-elle analogue à une opération chirurgicale? 3) Quelles relations existent entre les dents et la santé en général? Les réponses, comme toujours, sont intéressantes et nous indiquent les points faibles de l'éducation dentaire de nos patients.

## Etat de Grossesse et Interventions Dentaires

par YVES LAFLEUR, D.D.S., St. Hyacinthe, P.Q.

**A** QUELLE époque de la gestation de la femme est-il dangereux de pratiquer des interventions dentaires?

On ne saurait mieux répondre à cette question qu'en invoquant l'autorité et la compétence de ceux qui ont déjà traité de cette question. Nous prendrons d'abord l'opinion du Dr W. M. Gardner, contenue dans un article de la revue

d'hygiène "*Hygeia*". Nous consulterons ensuite le Dr Sterling V. Mead, l'auteur de cet incomparable travail, "*Oral Surgery*". Finalement nous donnerons l'opinion de quelques médecins sur cette brûlante question.

D'abord le Dr Gardner. D'après lui, il y va de l'intérêt de la patiente que toutes les cavités dans les dents soient

remplies et les maladies de la gencive traitées dès le début de la grossesse, afin de mettre la bouche en bon état dès les premiers mois. Les traitements nécessaires pourront être continués jusqu'à la fin de la gestation. Les extractions des dents condamnées se feront de préférence sous anesthésie locale. Il faudra toujours, durant les derniers mois de la grossesse surtout, et en jugeant d'après l'état de la malade, éviter toutes opérations longues, fatigantes, ou très douloureuses.

Voyons maintenant ce que nous dit le Dr Mead—Les femmes en état de gestation, par rapport à la chirurgie dentaire et à l'anesthésie, peuvent être considérées comme des patientes apparemment normales et on ne doit pas regarder leur état comme une contre-indication aux interventions dentaires, quelle que soit l'époque de la grossesse. Cependant, il faudra prendre toutes les précautions voulues pour ne causer à la malade que le minimum de douleur inévitable et surtout lui éviter tout choc opératoire.

Toujours d'après Mead, l'anesthésique de choix serait sans contredit le protoxyde d'azote avec un mélange très riche en oxygène. Mais avant d'anesthésier une patiente en grossesse, il sera toujours important de consulter le médecin traitant, surtout dans le choix de l'anesthésique, parce que certains médecins insistent, pour leur cliente, sur l'emploi de l'anesthésie locale. L'état de gestation,

même presque à terme, n'est donc pas un obstacle aux opérations dentaires bénignes et de courte durée. On s'en tiendra cependant aux seules extractions d'urgence, vers les derniers temps de la grossesse.

Quant aux médecins et chirurgiens que nous avons consulté sur cette question, voici en quelques mots leur réponse. Tous semblent unanimes à dire qu'ils ne voient aucune objection aux interventions dentaires, même presque à la veille de l'accouchement, pourvu que le travail du dentiste soit accompli avec les ménagements nécessaires. Au sujet de l'anesthésie générale, il faudra, avant d'y avoir recours, bien connaître l'état général de la malade, s'assurer qu'elle ne souffre pas de dérangements systémiques graves tels que: vomissements incoercibles, albuminurie ou autre trouble du rein.

En résumé, toutes les autorités s'accordent à dire que dans les cas de grossesse normale, il n'y a aucune contre-indication aux interventions dentaires nécessaires au maintien de la santé générale de la bouche; dans les derniers temps de la gestation, s'en tenir aux seules opérations d'urgence; sur le choix de l'anesthésie, les avis semblent partagés.

Dans tous les cas, en particulier ceux où on pourrait craindre des complications, toujours agir avec prudence et discernement et en collaboration avec le médecin traitant.

*Bibliographie:* Hygeia, 1928: Dental Superstitions. Mead, Oral Surgery, page 136.

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LES CLINIQUES D'AUTOMNE DU MONTREAL DENTAL CLUB AURONT LIEU,  
DU 22 AU 24 DE CE MOIS.



# Suggestions Pratiques

## *Stérilization des pièces à main et des contre-angles*

Prendre un vaisseau de grandeur convenable. Y déposer les instruments à stériliser et y ajouter de la vaseline commune en quantité suffisante pour que, une fois fondue, elle couvre entièrement les instruments.

Faire chauffer jusqu'au moment où la vaseline commence à fumer et maintenir à cette température pendant quelques minutes. Sortir les instruments de la vaseline liquide avec une précelle propre, laisser refroidir et essuyer avec un linge que l'on conservera pour cet usage.

La température de l'ébullition de la vaseline est de beaucoup plus élevée que celle de l'eau et de cette façon, les instruments en question sont stérilisés et en même temps lubrifiés. De plus, la vaseline étant un semi-liquide, elle ne s'étendra pas sur les doigts quand on fera ensuite usage des instruments.

Y. L.

### *Vomissements post-anesthésiques*

Pour enrayer les vomissements qui surviennent quelquefois après l'administration d'un anesthésique général, on recommande l'emploi du chlorure d'adrénaline. Posologie: 5 à 8 minimes de chlorure d'adrénaline Parke, Davis Co. 1-1000 dans 3 à 5 c.c. d'eau, à prendre par la bouche.

Y. L.

### *Ciments isolants au thymol*

Vous trouverez avantageux d'ajouter du thymol au ciment que vous mettez dans les cavités profondes et sensibles, avant d'y insérer l'obturation permanente d'amalgame ou d'or. Pulvériser quelques cristaux de thymol et incorporez-les à votre liquide sur la plaquette à ciment et malaxez votre ciment comme d'habitude. Vous aurez ainsi un isolant à la fois antiseptique et sédatif. L'addition du

thymol retardera légèrement la prise du ciment, sans aucun inconvénient d'ailleurs.

Y. L.

### *Pour décimenter les dents postiches "Interchangeable"*

Pour enlever sur un pont des dents postiches "Interchangeable", genre Steele, faire tremper le pont dans un bain d'acide chlorhydrique, pendant deux ou trois heures. Le ciment se dissoudra dans l'acide et les dents se décolleront ensuite sans effort et sans danger de les briser.

Y. L.

### *Le Dr Martin Dewey—et les bonbons*

D'après le docteur Martin Dewey, ancien président de l'Association Dentaire Américaine, et orthodontiste de réputation internationale, les magasins de bonbons ont fait plus de tort à la santé publique que même les anciennes buvettes. En effet, la buvette prenait ses adeptes parmi les adultes, tandis que les magasins de bonbons recrutent leur clientèle surtout parmi les enfants et on sait bien que ce sont les dents des enfants qui sont le plus ravagées par l'abus des sucreries.

Y. L.

### *Délicatesse*

Après avoir enlevé la digue de caoutchouc appliquer un peu de teinture d'iode et d'aconite sur les gencives et du "cold cream" sur les lèvres. Avec ce traitement, les patients oublieront vite cette sensation de "bouche fatiguée", dont plusieurs se plaignent après un travail dentaire de quelque durée et ils en seront reconnaissants à l'opérateur.

Y. L.

# Nouvelles des Sociétés Dentaires de la Province

par GERARD DE MONTIGNY, B.A., D.D.S., M.S.D.

## *La Société de Stomatologie de Québec*

A la dernière réunion de la Société de Stomatologie de Québec, qui eut lieu, le vendredi, 11 juin, les membres ont procédé à l'élection du bureau de direction pour le prochain terme avec le résultat suivant:

Président—Jules Hamel.

1er Vice-prés.—Eugène Blouin.

2e Vice-prés.—Remy Langlois.

Bibliothécaire—Viger Plamondon.

Sec.-Corresp.—Rodolphe Talbot.

Sec.-Trésorier—Emile Bourdon.

Les questions suivantes ont été discutées:

- 1) La Fédération des Sociétés Dentaires de la Province;
- 2) L'organisation d'une lutte contre la pratique illégale.
- 3) La coopérative d'achat de matériel dentaire.

## *La Société Dentaire de Montréal*

La séance du mois de mai fut consacrée aux élections du Comité Exécutif de la Société Dentaire de Montréal pour le terme 1937-1938.

Le Comité, formé des membres dont les noms suivent, a été réélu pour un nouveau terme:

Président—J. F. Perreault.

Vice-Prés.—A. Plessis-Bélair.

Sécrétaire—Gérard de Montigny.

Trésorier—Euclide Malo.

Ass-Sécrétaire—Lucien Reeves.

Conseillers—Lucien Giguère.

" —Amherst Hébert.

" —J. R. Groulx.

" —G. O. Paiement.

A cette même réunion, il fut décidé de donner un prix de dix dollars à l'élève

faisant de la Faculté de Chirurgie Dentaire de l'Université de Montréal, qui aura présenté la meilleure thèse pour l'obtention de son doctorat.

Cette récompense, connue sous le nom de "Prix de la Société Dentaire de Montréal", a été mérité par M. Gustave Lachance.

## L'ART DENTAIRE A L'EPOQUE PREHISTORIQUE

### *Une prothèse dentaire datant de 3000 ans*

Près d'Aschaffenburg, en Bavière, on vient de ramener à la lumière une tombe de l'époque préhistorique, datant de 3000 ans environ.

Les restes de squelettes qu'elle contenait avaient sept couronnes dentaires de bronze. Toutes les sept étaient dans un parfait état de conservation.

Ces restes de prothèse dentaire préhistorique seraient vraiment les premiers à avoir été retrouvés.

Ces sept prothèses ont été dirigées vers le musée régional d'Aschaffenburg.

## *En Commémoration*

Dans le cours du mois de juin, est décédé le Docteur Hector Pelletier-Mailhot de Montréal, diplômé de la Faculté de Chirurgie Dentaire de l'Université de Montréal (1927).

Le Docteur Pelletier-Mailhot estimé de ses confrères était encore jeune. Il nous quitta malheureusement avant d'avoir pu donner sa pleine mesure.

Nos sympathies à sa famille.

AUTUMN PORTAGE  
*(Courtesy of The Beaver)*



*"This world consists of three classes of people—a very few who make things happen—the many who watch things happen—and the overwhelming majority who have no notion at all as to what is going on in the world."*—  
NICHOLAS MURRAY BUTLER.



W. W. WOODBURY, B.Sc., D.D.S.

Dean of the Faculty of Dentistry, Dalhousie University.

Past President of the Dental Board of Nova Scotia.



# The Journal

## OF THE CANADIAN DENTAL ASSOCIATION

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### Mottled Enamel in Alberta

by OSMAN JAMES WALKER, M.A., Ph.D.,

*Professor of Chemistry,*

*University of Alberta, Edmonton, Canada.*

SINCE mottled enamel was described by Black (1) and by McKay (5) in 1916 a great deal of information regarding it has been collected and published in the scientific journals. It has been shown (3) that this tooth defect is endemic in many parts of the United States, in parts of Europe, Asia, South America and Africa. In the earlier investigations it was shown that the prevalence of this malady was in some way connected with the water supply of the region and that the attack took place while the permanent teeth were forming and that the defect persisted throughout the life of the individual. It was also shown that this defect did not apparently affect the tendency toward dental caries.

It was not until 1931 that Smith, Lantz and Smith (7, 8) and also Churchill (2) presented evidence to prove that the factor in the water supply which caused mottled enamel was fluorine in some form. Smith and her colleagues were able to show that concentration of fluorine over one part per million parts of water induced mottled enamel in young rats, the intensity of the attack increasing with increasing concentrations of fluorine. Other investigators have agreed

that fluorine has this effect. It was found that when waters from endemic regions were analyzed the fluorine content varied with the extent of the attack on the teeth of humans. Fluorine is invariably present in minute amounts in natural waters but from investigations which have been carried out, at least one part of fluorine per million parts of water (6) is necessary to cause the milder form of mottling which consists of opaque white spots or bands, usually on the upper teeth, while the severity of attack and also depth of colour—white, yellow, brown, black—increases as the fluorine content of the water rises to two, four or more parts per million parts of water. With amounts over twelve parts per million, bones are apparently attacked as well (4).

As far as can be ascertained there have been no indications that mottled enamel occurs in Canada nor have there been any reports on the fluorine content of the natural waters in Canada. The interest of the writer was attracted to this problem in the summer of 1935 when the principal of the school in Granum reported a condition of the teeth of many of the children in the district which corresponded with the condition met with in

mild cases of mottling. Samples of water were obtained from the district, methods of determination of fluorine were examined and analyses were carried out. Results showed that the fluorine content of water used by the infected children ran over two parts of fluorine per million parts of water, while wells in the same district used by children whose teeth were not mottled contained less than one part of fluorine per million parts of water. In the meantime members of the Provincial Travelling Clinic reported that about a dozen cases of mottling had been observed at their centre in Grassy Lake, about seventy miles east of Granum. When the University opened, the writer detected mild mottling in teeth of students from other districts, namely, Claresholm, Cardston and Foremost. Before this time, however, it was decided to conduct a survey of the province as a whole, both in regard to the occurrence of mottled enamel and also to the fluorine content of the water supplies in different parts of the province. The co-operation of Dr. Bulyea and other members of the School of Dentistry at the University of Alberta, of Dr. Bow and members of the Provincial Department of Health, the Provincial Laboratory and of the dentists in the Province were enlisted. An appeal (9) was made to the members of the medical profession. By means of such co-operation and by using as many avenues of approach as possible, it was found that the mottling of teeth was more extensive in the Province of Alberta than had been first thought. As much information of cases was obtained as possible, preferably from the dentist of the district. In some districts, however, it was extremely difficult to get precise data as mottling of the teeth may not be a reason for visiting a dentist; in some districts there are no dentists; in other cases dentists have had no experience with this tooth defect and

had not recognized it in its milder form. For purpose of gathering information a questionnaire was used, the form of which is shown in Table I.

TABLE I  
INVESTIGATION OF FLUORINE IN  
WATERS OF ALBERTA  
DATA SHEET

Name .....

Post Office Address.....

Location of Well.....

Sec..... Tp..... R..... W..... M.....

Date of taking sample.....

Depth of well in feet.....

If from a stream, so state.....

Is it a flowing well?.....

How many families obtain water from this well?.....

How many children?.....

Do you know whether the teeth of any users are mottled or are stained? If so, state names and ages.....

.....

If so has a dentist confirmed it as mottled enamel?.....

Are all wells in your community of similar depth to your well?.....

If not, state approximate depths.....

If you know the names of other families in your district that have mottled enamel would you please give me their names and addresses?.....

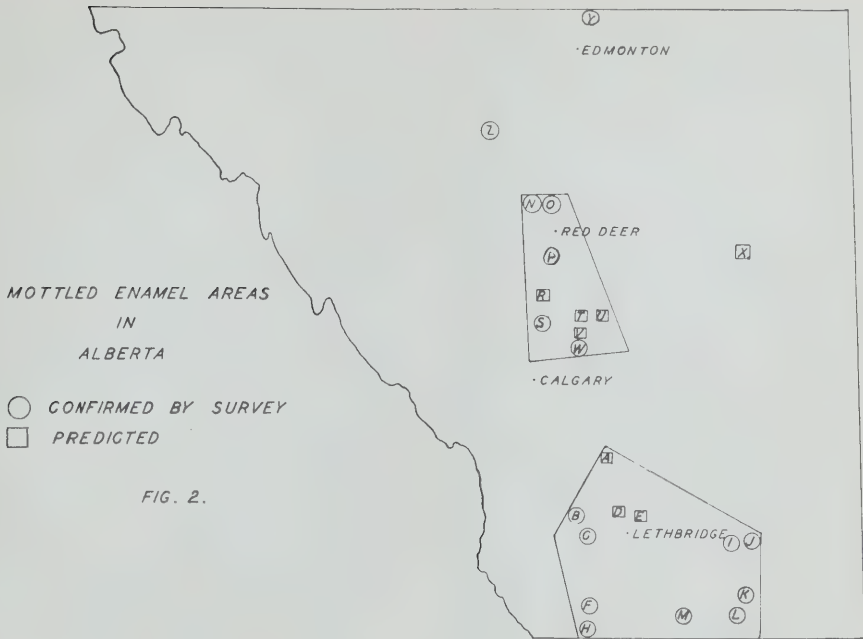
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It will be noted that emphasis in this questionnaire was placed on the water sample as it was felt at the time that in districts where mottling occurred in certain families, there would be people in the same districts free of this defect and that the information on depth of well would show that different underground sources of water in various geological strata were being tapped. The information thus obtained, while not so complete as desired, clearly indicates that mottled enamel is prevalent in some districts in Alberta and that its occurrence can be directly traced to fluorine in the water supply. As a general thing, mottling is not severe, the most common cases being of the opaque type although, in a few cases, the spots are pale yellow. In dis-

## Mottled Enamel in Alberta



tracts where mottling is endemic, the water supply comes generally from deep wells while the users of water from shallow wells in the same district are unaffected. In a few districts the fluorine content of a few shallow wells was found to be over one part per million while deep wells were low in fluorine. Water samples have been analyzed from over 270 sources covering many different points in the province.

By combining data from the clinical side with results from the analysis of the water it was possible to construct the tentative mottled enamel map of the southern half of the province which accompanies this article. It would seem that the bulk of cases reported and suspected are found in two areas, one centering on Lethbridge and the other in the vicinity of Red Deer. This disfigurement does not occur at all points in these areas and, in general, mottling is of the mild variety. In the Lethbridge area, for example, clinical evidence has been re-

ceived (of cases at Granum (C), Claresholm (B), Cardston (F), Kimball (H), Milk River (M), Grassy Lake (I), Burdett (J), Foremost (K), Lucky Strike (L). (Letters refer to those on the map.) The extent of mottling is greatest at Claresholm, Granum and Grassy Lake. In all cases but one when water samples had been taken from the wells of individuals affected, fluorine content was from 1 to 4 parts per million parts of water. The exception to the rule was Cardston where water is obtained from a creek which rises in the mountains and is undoubtedly fed from different sources at different times of the year. In the winter and early spring this water is low in fluorine content and as yet no samples from this source have been obtained in midsummer. From an examination of the fluorine content of water, it is suspected that cases of mottling will be found at Vulcan (A), Barons (D) and Picture Butte (E). The area may extend farther south-east than shown.

In the Red Deer area, clinical evidence is not so complete but cases have been observed from Bentley (N), Blackfalds (O), Innisfail (P), Didsbury (S) and Beiseker (W). In all of these cases high fluorine is associated with mottling. It is expected that cases will be found at Allingham (T), Three Hills (U), Acme (V) and Olds (R). This area may even extend farther to the south than shown.

A dental clinic supported by the Kiwanis Club of Wetaskiwin found a number of mild cases at some distance west of that city (Z). Quite recently a local clinic reported similar cases from Tawatinaw (Y), which lies some distance north of Edmonton. It is thought that conditions are suitable for the prevalence of mottled enamel near Coronation (X).

It will be necessary to gather much more information on mottled enamel before it is possible to draw a detailed map showing mottled enamel areas in this province. In this respect the help of the dentists will be much appreciated. The funds available for this work have been obtained from a grant from the Carnegie Foundation and have not been sufficient to make the minute investigation that should be made. The author has had associated with him two graduate students, Mr. E. Y. Spencer and Mr. J. S. Charlesworth, who have done most of the chemical work. A more detailed discussion of the work so far completed will appear shortly in the Canadian Journal of Research.

This paper would be incomplete if nothing were said about the prevention of mottled enamel. It must be remembered that mottling only occurs during

the time when the permanent teeth are forming and during that period the child should use water containing less than one part of fluorine per million parts of water. There are two roads open in an infected district. One is to switch from a high fluorine water to a low fluorine water. The other is to use some material which will lower the fluorine content of the water. The first remedy is available in many districts but in others it will be necessary to rely on the second method. Since the amount of fluorine is so small, it is only recently that attempts have been made to remove it from water. These treatments are still in the experimental stage but it is thought that at least one scheme will be developed to such an extent that commercial equipment will soon be available for lowering the fluorine content of natural waters to less than one part per million. Some work on Alberta waters along these lines will be conducted in these laboratories and it is hoped that the occurrence of mottled enamel will be much decreased.

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*In a State imbued with the scientific spirit, the physical and mental well-being of the population, not the amount of the total imports and exports, or any other non-human standard, would be the prime concern of society.*—Julian Huxley in "John O'London's Weekly".



# Oral Diagnosis Stressing X-Ray Examination\*

by JOHN A. BOTHWELL, D.D.S., Toronto, Ontario

ALTHOUGH I have presented a few papers on this subject, "Oral Diagnosis," it still seems strange to me to be asked for a presentation on any subject not pertinent to that with which I am generally associated. Most of you probably know that for most of the years I have been in dental practice I have devoted intensive thought to a branch of dentistry known as prosthodontia. For those of you not familiar with the term I shall define it. Prosthodontia is the art of making artificial appliances to compensate for the malposition or loss of natural teeth and for the purpose of bringing the mouth to normal conditions; or if not absolutely normal, just as nearly approaching normalcy as possible with given conditions. In this field, my attention was given particularly to that specific phase of prosthodontia known as full denture prosthesis. Had I given up general practice that would have been my specialty. But I did not specialize; and the fact that I have been doing general dentistry for so many years has probably been responsible, more than anything else, for awakening in me a keener appreciation of the great need of humanity for more thorough and complete oral examinations. I began to realize that although the construction of artificial teeth had been for so many years nearest and dearest to my heart it was, after all, one of the curative arts. It begins its work after the mouth is impaired while oral diagnosis is a service that will prevent disrepair to an exceedingly marked degree, and is therefore a

preventive service. I shall just add that now, in my practice, if oral diagnosis is not paramount in my thought, at least it holds not less than equal place with my full denture service.

There was a time in the history of dentistry when a complete diagnosis could not be made. This was because dentists did not have at their disposal all the facilities for procuring the necessary findings—in other words, for making a complete oral examination. But now with the aid of the vitalometer, the transillumination lamp, and especially the x-ray machine, the danger of leaving any area in the mouth, healthy or otherwise, unexamined is practically nil.

## COMPLETE IN 100% OF CASES

But sad to say, even with these facilities at our disposal, either through lack of appreciation or because of the expense involved, a complete oral examination is not being made nearly as often as it should be. Even considering it from the very wrong viewpoint of the cost—a mercenary viewpoint—this is short-sighted. Because of the impaired conditions revealed by a complete oral examination and the reconstructive work found necessary therefrom in order that the mouth be restored to a state of health, the dentist could well afford to stand the expense of this examination himself. But do not forget that this is not an honest reason. I mention it only to show that even those whose policies proceed from this selfish and mercenary standpoint are taking the short view. In my opinion a

\* Presented to the Toronto Chapter of the Ontario Dental Nurses' and Assistants' Association, Jan. 4, 1937.

complete oral diagnosis should be made in 100% of cases. A complete oral diagnosis gives us the foundation on which we build all our other services. And unless we know that foundation is healthy what right have we to place on it even one restoration? In my opinion it is dishonest to do so. How would we like to pay for a house built on ground we knew nothing about. We may be leaving covered up some pathological condition which of course should be removed. And from the viewpoint of honesty how can we accept remuneration for placing a building, so to speak, on a foundation of sand? For my own sense of security I cannot do it. If we are to be responsible for the health of the patient as far as the mouth is concerned how can we be satisfied with anything less than a diagnosis as complete as modern dental aids will afford. This may prompt the question, "Well, what do you consider complete?" A complete oral diagnosis is a scientific determination of a patient's oral condition made from the interpretation of all the findings procured from a complete oral examination. This diagnosis is almost always accompanied by the advice of the diagnostician.

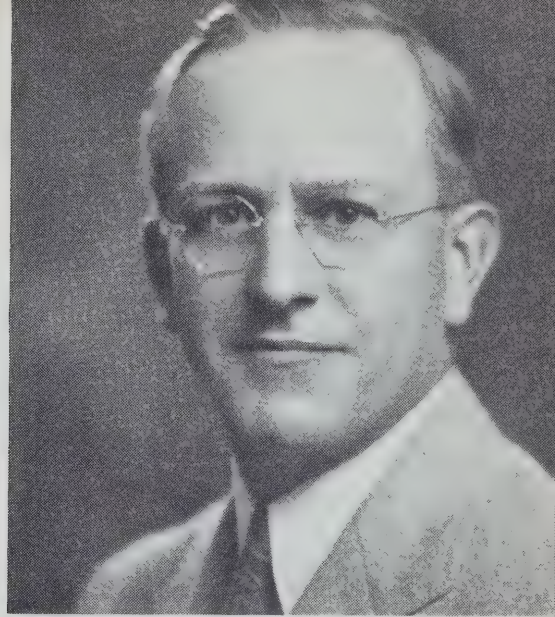
#### ANATOMY OF TEETH

Before we go any further I must tell you something concerning the anatomy of the teeth. A tooth is composed of four tissues: enamel, which covers the crown; dentine, which forms the body of both crown and root; cementum, which covers the root and joins the enamel at the gingival line or neck of the tooth; and pulp tissue which fills the central portion of the dentine. Each tooth has certain characteristics common to all. They are these: crown, neck or gingival line, root, pulp chamber, canal and surfaces of crown and root. The crown is that part which projects beyond the gum line and is covered with enamel,

while the root or roots, covered with cementum, is that part which is fixed in the bony structure of the jaw by which the whole tooth is held securely in position. This bony process is called the alveolus. The root is divided into the body or main portion, and the apex or end of the root. The neck marks the junction of the root with the crown. The crowns of the anterior teeth, that is, the incisors and cuspids, present for examination four surfaces and the crowns of the bicuspid and molars five surfaces. These surfaces are named according to their position and use. Those of the incisors and cuspids proximating the lips are called labial surfaces; those of the bicuspid and molars toward the cheeks, buccal surfaces and all surfaces toward the tongue, lingual surfaces whether they are in the upper or lower jaw and whether they are anterior or posterior. The surface which comes in contact with the opposing teeth when closing the mouth is called occlusal. This pertains of course only to the bicuspid and molars. The corresponding surface on the anterior teeth is scarcely a surface but is rather an edge and is called incisal. The surfaces that lie adjacent to those of the other teeth are called proximal surfaces. The proximal surfaces are known as mesial and distal, the mesial being those toward the median or middle line of the body and the distal those away from the median line of the body. The points at which the proximal surfaces touch each other are called contact points. The gingival surface of the tooth is on the crown at its immediate junction with the root at the gingival line. Now all these component parts of the tooth and their surfaces which I have just named, together with the bone and soft tissues, provide the field for Oral Diagnosis.

#### COMPLETE ORAL DIAGNOSIS

The next question for our considera-



JOHN A. BOTHWELL

tion is how we would go about making a complete oral diagnosis. My previous definition refers to "all the findings procured from a complete examination." Well, what is it we are looking for in a complete survey of the field for examination? We want to determine the condition of the crowns of the teeth, the roots of the teeth, and the tissues surrounding the teeth, both hard and soft. In the crowns we are looking for anything interesting about the pulp chambers—their size, presence of pulp-stones, etc.—; for dental caries, or a disease called, in common parlance, decay; for overhanging margins on individual tooth restorations; for faulty contacts and for so-called "leaky" fillings. This term "leaky fillings" is a misnomer. The actual condition, of course, is not that fillings are leaking but that caries has developed around the margins of the fillings. In the examination of the roots we are looking for teeth from which the nerves have been removed; and finding them, we look to see if the nerve canals are filled to the very apices. We look, too, for the condition at the apices, for the condition of the membrane around the teeth known as the peridental membrane and for the condition of the bony structure or alveolus.

According to the teachings of medicine and dentistry, all pulpless teeth are risks to health. Infected teeth are menaces to health. Disgusting as is the thought of swallowing pus, it is less dangerous to health than absorbing it; the gastric juice is considered a germicide. In determining what to advise for pulpless teeth, even though not all reveal evidence of infection, the state of the patient's health must be taken into consideration. The question to be answered is not, "Are pulpless teeth a risk?" but "How great a risk are they?" as well as, "Is this patient justified in taking a risk?" Each case must be dealt with specifically and the patient's health should be the controlling factor in the dentist's advice. When any devitalized teeth are allowed to remain, the patient's co-operation should be obtained and an x-ray examination of the apices of those teeth made annually so that any change can be detected before the risk becomes a menace. So much for a mouth in which there are devitalized teeth!

Now for a mouth in which there are not devitalized teeth the modern dentist can, with the patient's co-operation, prevent there ever being one. And there is no other way to solve the problem of the pulpless tooth. The one and only one is



to prevent the pulpless tooth. By succeeding in this Dr. Mayo is quoted as saying, "Dentistry can extend human life ten years." Now the question is, "How can the pulpless tooth be prevented?"

#### DENTAL CARIES

Let me tell you first something of the progress of dental caries. The enamel is made up of a series of very fine bars arranged parallel to each other. Caries first attacks the enamel, generally at the contact point of a tooth. It can be detected neither with the eye, by instrumentation nor by the use of dental floss. In the enamel it follows in straight lines along these bars, leaving the appearance of the tooth very innocent. After a while, however, it is discovered that caries has eaten its way into the dentine, the soft, sponge-like material underlying the enamel. In this comparatively soft tissue it makes rapid strides to the pulp, the very soft pith-like substance containing the blood-vessels, lymphatics, and nerve-tissue. It is at this point that the patient is first conscious of what he calls toothache; dentists call it pulpitis. Here the disease proceeds to destroy the pulp and in this way burrows a channel through the root canal to the apex. From this opening, harmful bacteria from the mouth attack the jawbone, are picked up by the blood-stream and are deposited in any part of the body. It is our duty, as dentists, to keep this tissue-destroyer out of the body, and it is dentistry's aim to prevent the possibility of such an occurrence that makes a complete oral examination and its consequent diagnosis of such vital importance. Once the pulp is destroyed we cannot, with certainty, prevent this; nor can we, as yet, prevent dental caries. But we can do this: we can stop it when it is in the stage of dental caries. In this connection it would probably be interesting for you to know how long it takes a cavity to develop.

Well, from the time a radiograph shows that the enamel of a tooth is just barely nicked until the caries has burrowed right through the enamel and destroyed a considerable portion of the dentine is about two years. This is, I understand, the average. Now my question at the end of the last paragraph as to how the pulpless tooth may be prevented I shall answer under my outline for complete oral examinations.

#### PROCEDURE

You will be interested in knowing my procedure for these complete oral examinations. In my office the examination is proceeded with as follows: the following headings from the clinical history are called out by the chairside assistant and as I make them, my findings are recorded by her on various printed forms designed for the purpose: **GENERAL HEALTH**—this consists of a little talk about such habits as appetite, sleep, nerves, energy; if the patient reports impaired health it means that that should be taken into consideration in the determining of advice. If the case warrants, it is advisable to work in conjunction with the patient's physician. **ACUTE SYMPTOMS**—this pertains either to the patient's general health or to the condition of the mouth; **ABNORMALITIES**—this refers to oral conditions only; **TEETH NOT PRESENT**—these are recorded by use of blue ovals on the diagram of the teeth on the examination chart; **DRIFTING**—this, too, is indicated on this diagram by the use of certain symbols in blue pencil; **RESTORATIONS**—this refers to restorations replacing missing teeth, the only exception being artificial crowns. The restorations are made note of on the clinical history; **OCCCLUSION**—this is not considered from the same viewpoint as an orthodontist would consider it but only in terms of overbite, overjet, crowding, etc.; **PERIODONTAL CONDI-**



TION—these findings are recorded on the clinical report; CAVITIES — these are placed on the diagram of the examination chart; VITALITY—this is done with the Vitalometer and where indicated with cold (Ethyl Chloride) and heat (hot Gutta Percha) as additional tests; the findings are recorded on the vitality report; TRANSILLUMINATION — this is done with the use of an oral lamp; MOBILITY—every tooth is checked digitally, the finger and thumb being used. Now these tests cover the clinical part of the examination as far as it is possible to go without the aid of x-ray examinations. At this point, in many cases, I now take study models. These serve as a valuable help in making a decision as to the best mechanical procedure for the mouth. (Sometimes, of course, I have no idea before I interpret the x-ray examinations that this will be necessary, in which case the impressions for the study models have to be left until the second appointment. This then makes a third appointment necessary before the diagnosis can be made.) The next step is the radiographic examinations — full-mouth and bite-wings. This is an opportune time for me to say that I feel all films should be developed and examined—this does not mean interpreted, but examined—right away, so that retakes may be made without the patient having to return for a second appointment. We use Dr. Clarence O. Simpson's fast-developing technique. And as soon as the emulsion clears from the films they may be removed from the fixer and rinsed for a moment or two. Then they should be carefully studied from the viewpoint of definition and detail. This should be repeated until with the re-exposed films a complete series is perfect. The dark-room nurse and the x-ray technician should both be capable of determining this. When they are satisfied and no more retakes are necessary, the

patient is given a second appointment. In the interval before he returns the x-ray films are mounted and interpreted. During this interpretation the findings are given verbally to a nurse who records them on printed report-forms. When the patient returns, the clinical examination is completed with a view either to confirming or refuting the x-ray findings. And when this is done, all findings are complete. The dentist is now ready to make his diagnosis and to give his advice. In the giving of advice is the dentist's only thought complete oral reconstruction, or is it just to restore the lost tooth-tissue he can see with his eyes? In the giving of advice all one's resources are called forth. One's best judgment is not too good. So much has to be taken into consideration: the patient's age, the future of the whole mouth, the patient's financial status. The dentist's responsibility in this matter cannot be estimated too highly. The patient is placing his implicit faith in him; and probably a considerable sum of hard-earned money is at stake. If the dentist is fair he just cannot take his responsibility lightly.

#### TWO X-RAY EXAMINATIONS

At this point I want to go more fully into the great value and vital importance of the two x-ray examinations. Let it be borne in mind that one is not under any consideration a substitute for the other, as both have their individual value. The angles at which the exposures are made in one series vary by many degrees from the angles at which the exposures are made in the second series, and one will not do for the other. The fundamental purpose of the interproximal examination is to detect dental caries in its incipency, to find it, if possible, before it penetrates the enamel and certainly before it goes far into the dentine. In other words, its purpose is to prevent the pulpless tooth. From it can also be ascertained pyorrhea

in its early stages. The purpose of the full-mouth apical examination, on the other hand, is for the detection of conditions in the bone, especially advanced pyorrhea, cysts, and unerupted, impacted and supernumerary teeth; of the apices of the teeth, and of the periodontal membrane. Diseased conditions revealed through the means of this examination, of course, do not carry the hope that lies in the evidence obtained from the interproximal examination—this because, obviously, the undesired damage in a large percentage of cases has been done.

Just as one x-ray examination cannot take the place nor serve the purpose of the other, neither is either x-ray examination meant to supplant any of the other methods of diagnosis. The explorer has its purpose, the dental floss has its purpose, the vitalotester and the oral diagnostic lamp have their purposes. All are important; each has its place among the diagnostic agents, but in placing them in the order of their merit, the x-ray stands supreme. It heads the list as an informative agent, and also for the reliability of the evidence it reveals. I did not mention among these examining methods the separation of the teeth for the purpose of surveying the proximal surfaces, but I shall say here that this method is very undesirable. It runs into a great deal of time and is therefore expensive; and the placing of a mechanical separator on the teeth is a very painful operation. On the other hand, I cannot say that any of the agents render separation absolutely unnecessary—there are times when wisdom would indicate the advisability of it—but the interproximal x-ray examination reduces the necessity for it to a minimum.

For ten years now I have used, consistently, in my diagnostic work the interproximal x-ray examination. Words are inadequate for me to express how high it stands in my esteem. Without exception I consider it the greatest boon that has

ever come to dentistry. Because of the valuable service it has made possible to my patients, I, personally, owe a deep debt of gratitude to Dr. Howard R. Raper who has spared nothing in his endeavour to benefit humanity through the channel of dentistry with this greatest of all preventive measures. His life has been consecrated to this cause. Firstly he worked to develop the technique which, by means of the x-ray machine and by the use of certain films which for trade purposes he designated the "Bite-Wing," we can obtain the best possible view of all the surfaces of the crowns of the teeth in the shortest length of time and at the least expense to the patient over a long period of time. It is really economical and scientifically sound. Secondly, he gave unsparingly and untiringly of his time and effort to the writing of several books on his subject. His great wealth of knowledge gleaned from years of research as a teacher and diagnostician he gave to the dental profession that they might share the harvest of his unceasing toil and the most unselfish motives. What a great blessing is ours in having served to us on a silver platter, as it were, the fruits of his abundant experience. It has been the privilege of my secretary to know Dr. Raper personally, and she claims him to be a humanitarian of the highest order, and in the truest sense of that word and a gentleman of the finest instincts. When I see a fine work like his capable of doing so much for the mouth-health of the world, I cannot refrain from feeling a deep sense of disappointment that the profession at large has not welcomed this achievement with enthusiasm and used it as conscientiously as any other detail of their professional service. Dr. Raper himself says, "I believe it to be the most important work I have ever done. By most important, I mean it holds the greatest possibilities for benefiting humanity." Why

dentists have not taken up this radiodontic feature to aid them in making oral diagnoses is absolutely beyond me. As I said before and as I feel from the very depths of my being, it is the greatest benefaction that has ever come to dentistry. Just think, in many, many cases when sight and instrumentation and floss have failed it has made possible the prevention of the pulpless tooth. And in many cases where it has been used for the first time it has brought to light many cavities extending right into the dentine which were so innocent in the enamel that they could not be detected by any of the other methods, and which before much more time had elapsed would have extended into the pulp. Very, very often caries enters the enamel at the point of contact of two teeth along a channel not much larger than a fine needle — a channel that ninety-nine times out of a hundred would be missed by an instrument or dental floss—and yet underneath the enamel, the cavity is often as large as a pea. Is it any wonder, I ask you, that there were so many pulpless teeth in the past?

#### INCOMPLETE EXAMINATION

This, however, is not the past. So what about the present? Are dentists to-day doing their work as they learned it at college twenty or thirty years ago or are they keeping abreast of the times and availing themselves of the wonderful strides made by their profession during the last ten or fifteen years? These are so vast that they afford a wealth of opportunity for the members of the profession to increase their ability as operators and especially as diagnosticians. Are they avoiding many of the pitfalls into which so many of their profession fell before all these modern methods were available? The greatest of these, of course, was incomplete examinations. The tendency among the profession to examine and

restore only a part of the mouth is, to my mind, deplorable and very sad. The risk is too great, and the responsibility greater than any dentist should be willing to take. If the human eye could see between the teeth and underneath the gum-line there might be a slight excuse for it; but the human eye cannot do this. And since it cannot, who are we to decide for the patient that any less than all should be done to expose conditions that require either correction or removal as the case indicates? We may be considering the cost to the patient, but which is the greater cost? Who pays for the ravages along the trail of undiscovered caries? The patient pays, my friends, and pays in ways more costly than in money. Let us take, for example, the history, briefly considered, of one tooth neglected until it aches. When opened up and examined, it is found that the caries has reached the pulp as was expected from these acute symptoms. The tooth now has to be treated, the pulp removed, the root canals filled and a crown placed as a restoration. In a few years the patient develops rheumatism. There are doctors' bills, druggists' bills, and time lost from work. The tooth is radiographed. It is extracted and the bone curetted. A three-tooth bridge is constructed. Just think how many periodic interproximal examinations and small fillings could have been paid for with the money spent for that root-canal filling, the gold crown, the extraction and curettement, the bridge, the doctors' bills, the druggists' bills. And think, too, how much more value the former service is to the patient. Once a tooth has been allowed to ache it will cost the patient more to have that one tooth treated—"if treated in strict conformity to modern surgical principles"—than it would have cost to have interproximal x-ray examinations once a year for twenty years, and realize that the treatment I speak of was for one tooth



only while the examination would have revealed information concerning all the teeth in the mouth.

#### EDUCATION OF PATIENT

Some of you may be wondering what the average patient's reaction is to paying for this interproximal radiographic examination. In my experience the reaction of the patients is most favourable. They must of course be told something about it. Nobody wants to pay for something he does not appreciate, and we cannot expect him to. We must apply the Golden Rule in all our policies. We would not want to pay even for a dental service unless we had some understanding of its value, but if the dentists will only take the time and put sufficient thought into it they can most assuredly give an educational talk that will be most satisfying to the patient. I, personally, always give each patient a little pamphlet by Dr. Raper, entitled "How to Prevent Toothache," at the end of these talks. It is written very simply and in a way most intelligible to the lay mind; and it certainly should serve to add to the sense of value already created in the mind of the patient during the educational talk. (These pamphlets, by the way, may be procured, I think, from any of the supply-houses or from the Canadian Kodak Co. They will send one hundred copies gratis to any dentist; and after that the cost is one cent apiece.) When a patient has some understanding and is given good reason to believe that the very best is being done for him, he is not likely to resist the right thing. My experience has been that it is not nearly so difficult to make patients appreciate the value of this service as it is the dentists. I cannot see any difference between doing an incomplete examination and incomplete reconstruction and giving short weight in selling goods. An editorial in the *Toronto Globe* bearing date of

November 17, 1936, expresses exactly my feelings about it. I shall quote from that article:

"In virtually every walk of modern life a deliberate policy of short-weighting has developed, and in most cases there is no machinery for bringing retribution to the offenders. Both the worker who endeavours to get by with as little work as possible and the employer who overworks and underpays his employees are engaged in 'short-weighting.' The student who refuses to study, short-weights both himself and his teachers, and the teacher who 'lies down on the job'—he is a rarity, by the way—is no less criminal. The landlord who hopes to extract rent from his tenants while refusing to keep his property in decent repair is a short-weighter; but the tenant who neglects to treat his home as carefully as though it were his own property is no better. Even art and literature are not free of the dealer in short-weight, and it would be possible to name more than one artist or writer who, having achieved fame in the past, now is content to put out rubbish in the certainty that his name will sell it. There is no need to elaborate further on the subject. Politics, business, the professions, manufacture and all the many branches of our civilization are hampered by short-weighters. It depends on the public whether eventually means will be found to convince all guilty of such dishonesty, that short-weighting is a species of fraud that is certain to be detected ultimately, and certain to react against the man who is shortsighted enough to resort to it."

This short-weighting, I am sorry to say, has not escaped the dental profession. It is absurd to employ bluff in our tactics, and yet if we assure a patient that his mouth is in a healthy condition without having done a complete and thorough oral examination, we have resorted to bluff. The fact of the matter is that all



of us at one time were guilty of this. I was one of them perhaps either because of inertia or because of the inadequacy of the right weapons with which to work. I always thought I did the best I could with the facilities at my disposal but I just wasn't awake to the fact that so much more thorough surveys were possible. Now, however, there is not an excuse for any short-weighting. If a dentist makes an examination that is not complete as I have described it and tells the patient he has found every defective condition in the mouth, he is certainly taking a long guess and assuming a responsibility greater than I would care to take.

#### THE DENTAL NURSE

I realize, of course, that this paper may seem as if it had been written for dentists. But it wasn't. Having had associated with me over a period of years many very capable nurses, I know what an important part they can play in making the complete examination to which I have referred, so often play the part for which it was intended. To make a personal reference, my own nurses are just as keen on having the case histories of my patients complete as I am. This fact undoubtedly makes for co-operation in a way that nothing else can. But for the alertness of a chairside assistant there might be many discrepancies in the procedure and but for the accuracy of the nurse who is in charge of records and charts, the histories might so easily not serve their greatest possible value. But it has been my great blessing to have the support of enthusiastic young ladies. To this enthusiasm I attribute a great deal of credit for the fact that my interest in complete oral diagnosis has never been allowed to wane but rather has always maintained its peak. It is amazing the degree to which one responds to moral support. But I suppose it is only human to feel the need of encouragement. I

certainly must express my gratitude though, that I have had on my staff, nurses in whom I have implicit faith, whose interest in the goal which was my aim to reach was just as keen as mine and what is equally important, just as intelligent as mine. They all have a real appreciation of the value of this great service to the patient, and also to the office if it is to serve the public in the way dentistry should serve the public. So on behalf of humanity and the profession of dentistry I appeal to you young ladies to put some thought into what I have given you to-night. Gain an understanding of the value of this fundamentally important dental service and then you will inevitably have an appreciation of it; and when you have an appreciation of it, it will really hurt you if your consequent high standards are not lived up to. Feeling this way you cannot help but create an incentive in the minds of the men with whom you are associated that will unavoidably raise their standards and result in rendering in their dental practice a service worthy of the name.

#### DEALING WITH PATIENTS

To preclude the possibility of your making some of the mistakes that so many of the dental profession are guilty of making, I'll bring to your attention a few little things which it is wise to avoid in your conversations with patients. In your educational talks be certain that you are engendering in the minds of your patients the right concept of the x-ray as regards their dental needs. Delete from your vocabulary the word "X-Rays" and "Bite-Wings" and refer to them both as x-ray or radiographic examinations, which they most certainly are—to the full-mouth as a general or apical x-ray examination and to the other as an interproximal radiographic examination. The meanings of the words "apical" and

"interproximal" should really be quite obvious and if they seem not to be they can easily be explained. And when the patients hear them a few times they use them just as you do and think in no other terms. And above all don't sell films to the patients. Supply-houses do that but dental offices certainly do not. Never quote a fee for an x-ray examination at so much a film. O, this is so erroneous and so unethical! Could the patient ever gain the true concept of the great value of the x-ray as an aid to dental diagnosis if the dentist is going to commercialize these examinations by quoting a fee at so much a film? It should seldom be necessary in any case to quote on single-exposure examinations, but if it is, refer to them as I have just here—as single-exposure examinations. They are films when we purchase them from the supply-houses but they certainly become oral radiographic examinations the very moment they are placed between the tongue and the teeth and exposed to the rays of an x-ray machine. There will be cases come up where single exposures will be indicated but this should always be with patients whose case histories are complete to date—that is, they already have had apical and interproximal examinations—but never for new patients. Don't do patch-work. Go over the whole ground and bring to light everything that needs correction. Until we have done this we have not fulfilled our obligation to our patients. Just think of a dentist being willing to submit to the utter folly of an incomplete oral diagnosis when nothing but a complete one is the honest thing for the patient and when in most cases the patient is not even consulted in making the decision as to what should be done. In my practice the patients who refuse to have the complete examination after I have explained its vital importance are less than 5 per cent and this is a most conservative estimate. One big reason for

this is that I believe in its value so thoroughly myself, that what I say cannot help but be convincing to the patient, and when patients are intelligent of its importance they want it more than they want anything else. They may be able to spread over a period of time the complete oral reconstruction but they realize they must know the truth and the whole truth about the condition of their mouths right away, and of course nothing else would be following the dictates of wisdom.

Now should you wonder if there are any mouths in which I do not do a complete examination, I will give you some enlightenment in this regard. Regardless of the age of the patient I make a complete clinical history for all mouths. In addition to the headings which I gave you for the adult I add the following for children: Is the child under the care of a pediatrician? Has any physician prescribed a diet? Has the child any erroneous habits? Only the mother has an intimate knowledge of these. Examples of such habits are thumb-sucking, lip-biting or lip-sucking and leaning the chin on the hand while in a sitting posture.

#### WHEN TO X-RAY

Now for the x-ray examinations! Unless conditions warrant it I do not do a full-mouth examination for children, but there are many cases which warrant it. If permanent teeth haven't erupted, the x-ray with its ability to give the complete picture below the gum-line, becomes a great blessing. O what this means! When I am referring children to an orthodontist I always do both general and interproximal examinations. The reason for the interproximal of course is obvious. If a small proximal cavity is not discovered and a band is cemented on the tooth, the cavity will probably be very large by the time the band is removed, and what a reflection this can be on the orthodontist if he has not advised an

interproximal examination. Now for children whose mouths do not suggest a reason for orthodontia, I omit the general x-ray examination unless some other reasons warrant it, but I begin at the age of four to make the interproximal examinations. I do this annually until the age of twenty is reached and except where patients show a predisposition to caries; then as a routine measure I make the interproximal only every two years. For my first examination of all adults I do a full-mouth apical examination and repeat this as a routine measure once every five years. When any devitalized teeth remain in the mouth or any other conditions warrant it I make single-exposure examinations for these areas yearly. For edentulous patients I do a general x-ray examination in absolutely every case before I construct artificial teeth. I cannot afford not to. I must know the condition of the bone throughout the mouth before I start in to build on that bone. You would be amazed at the number of cases in which there is revealed tips of roots and infected bone. Does this make me grateful that I make this examination? I should say it does.

Now I feel I have covered the extensive ground of my subject pretty thoroughly but if any question has suggested itself to any of you as I have been reading I hope you will not hesitate to ask it. The fact of the matter is, I shall be very much disappointed if this paper does not prompt much discussion. It should. It is a subject of vital import and it deals with a department of every dental practice in which a nurse's interest can do much to inspire and maintain a standard which is the only standard worthy of serving the public. The welfare of the patients should be our chief consideration and we

should never be content with having done less than all for the health of their mouths. On every patient's last appointment we should certainly experience the satisfaction which is the inevitable reward of work well done. Unless we have done all, except in the case of a patient's absolute refusal to follow our advice, we do not deserve that satisfaction. The divine law of compensation does not bestow its harvest of peace on the seeds of either carelessness, indifference, fear, dishonesty or any of the erroneous traits that spell incompleteness. When we put to work the priceless qualities of diligence, integrity, faith, patience and perseverance our fruitage will be abundant; we will never have a crop failure. When we focus our best efforts upon the details of our daily work and lose ourselves in the welfare of others we very soon see results taking the shape of success. Patience is so necessary because impatience is so very often the worm at the core of the apple of imperfection; and it is so easy to become impatient with trifles. It would be well to remember, however, Michael Angelo's words, "Trifles make perfection, but perfection is no trifle."

I might add in closing that our attitude toward our work will take on a new meaning and foster a great sense of joy and happiness when we work from the standpoint that "God is the only employer, and work is divine expression and infinite love; recompense." And we find much encouragement, too, in the realization of the words of Miss Violet Ker Seymer in her Commencement Address to the students of Principia College, St. Louis, Mo., in June, 1936, "The power of infinite Mind behind you is greater than the human task before you."

# Report of Special Committee of Nova Scotia Dental Association on the Dominion Dental Council in Relation to the Nova Scotia Dental Association \*

**D**URING the last few years there has been considerable discussion and criticism of the Dominion Dental Council in our Nova Scotia meetings. Accordingly at the 1936 meeting a committee, composed of Drs. A. W. Faulkner, G. R. Hennigar and H. M. Eaton was appointed to inquire into the structure and functioning of the Dominion Dental Council in its relation to the Nova Scotia Dental Association. The committee has held a great number of meetings since last fall and has endeavoured to discharge its duties to the best of its ability.

In obtaining the data upon which this report is based, information was sought from Dr. A. J. Brett, Secretary of the Dominion Dental Council, Dr. W. C. Oxner, Nova Scotia representative of the Dominion Dental Council, Dr. S. G. Ritchie, Presiding Examiner for Nova Scotia, Dr. W. H. H. Beckwith, President of the Nova Scotia Dental Board, Drs. J. S. Bagnall and A. B. Haverstock, Examiners for the Dominion Dental Council, and from the reports in the minutes of the Nova Scotia Dental Association since 1893.

A great number of matters have been discussed by the committee, out of which discussion certain recommendations are set forth in this report. Where it is deemed necessary a brief introduction is given to each recommendation.

1. In examining the "Constitution of the Dominion Dental Council of

Canada" the cover page and the title page of the booklet read: "Constitution of the Dominion Dental Council of Canada", while page three and following pages are captioned: "Constitution and By Laws". A perusal of the booklet shows that no distinction is made as to which sections are for the Constitution proper and which sections rightfully belong to the By Laws. Therefore your Committee recommends:

1. (a) That, in the next printing of this booklet, the cover page and the title page both bear the words: "Constitution and By Laws of the Dominion Dental Council of Canada".

(b) That the Sections belonging to the Constitution and By Laws be segregated under their respective headings.

(c) That the following Sections belong to the Constitution: Nos. 1, 2, 3, 5, 15 and 16.

(d) That all remaining Sections be classed under "By Laws".

2. There is at present no Section of the Constitution dealing with the procedure for the amendment of any part of it. Your Committee, to correct this omission, recommends:

That a Section be added to the Constitution dealing specifically with the amendment of the Constitution.

The next group of recommendations deals directly with the By Laws.

3. Section 7, subsection (d). The last sentence of this subsection reads as fol-

\*Presented at the 47th Annual Convention of the Nova Scotia Dental Association.



lows: "Each year immediately after the spring examinations he (the Secretary-Treasurer) shall prepare a financial statement and forward it, together with a copy of the Auditor's Report, to each agreeing province." In order to avoid any confusion of meaning the Committee recommends:

That the financial Statement and Auditor's Report be forwarded to the Secretary of the legal body of each agreeing province.

4. Section 19, subsection (e). This subsection deals with the question "To whom certificates of qualification shall be granted." The present By Law requires the candidate to produce evidence, amongst other things, of "having obtained a Canadian citizenship and of having resided in Canada for a period of two years prior to entering upon the study of dentistry." This would seem to be most unfair to Canadian citizens who might be in school, or at work, outside of Canada, and who might wish to return to our Universities for their dental education. Moreover the term "Canadian Citizenship" does not carry a clear meaning. The qualifications of a citizen of a country are complicated and difficult to define. As an endeavour to clarify the meaning intended one might include under this term the following classes:

(a) One who is natural born; that is, born in Canada of Canadian parents.

(b) Born in Canada of parents who are not Canadians.

(c) A naturalized Canadian.

Therefore your Committee recommends:

That the Council study this subsection carefully and clearly define the meaning intended.

5. Section 21 requires that the applicant for progressive examination in any subject, except Operative Dentistry, Prosthetic Dentistry and Orthodontia (which shall be final year subjects), shall provide

"proof that the applicant has been a bona fide student fulfilling the regulations as far as possible for a period of twenty months." This clause does not state whether the term be twenty school months or twenty calendar months. Moreover recommendation will be made later in this report regarding completion of a subject in which the candidate desires to be examined. Your Committee, therefore, can see no good object in retaining the clause above quoted and recommends:

That the first sentence of Section 21 terminate with the words "final year subjects", the remainder of this sentence to be deleted.

6. Section 24. This Section deals with the duties of Examiners. From various sources over the last several years there has been criticism of the undue delay in the marking and forwarding to the Secretary-Treasurer of candidate's papers. Your Committee understands that in the past there have been undue delays in the marking and forwarding of papers in certain cases. For example, an Examiner might receive papers for correction and go on holidays before evaluating them. Therefore the Committee recommends:

That all papers received for evaluation be marked and returned to the Secretary-Treasurer within the seven days, as required under Section 49.

7. Section 26 calls for the appointment of an alternate Presiding Examiner in each centre where examinations are to be held. This is highly important in the case of sudden illness or other unavoidable absence of the Presiding Examiner. Therefore it is recommended:

That an alternate Presiding Examiner be appointed for each examination centre.

8. Section 27, subsection (a). According to the By Laws examinations are held in the various centres "on the same days of the week and month, and the subjects

shall be written upon in the same rotation in each place of examination." Your Committee desires to point out that it would be possible for a candidate in Halifax to leave the examination room and telegraph or telephone examination questions to a candidate in Edmonton before the time arrived for that candidate to go into the examination room. We therefore recommend:

That the Council take note of this situation and, if they deem it necessary, proceed with such changes in the By Laws as might be required to meet this problem.

9. Section 27, subsection (b). It is understood that the Council is giving serious consideration to the suggestion that there be only three examination centres in Canada for the fall examinations; namely, Halifax, Toronto, and Edmonton; that is, the three centres in which are located the accepted dental schools. We heartily endorse such a suggestion because of the saving effected and in this connection make the following recommendations:

(a) That the fall examinations be held in Halifax, Toronto and Edmonton.

(b) That the Council do not pay the travelling expenses or subsistence of candidates directed to write in a centre outside their own province.

(c) That, consequently, the second sentence of Section 27, subsection (b), be entirely removed from the By Laws.

10. Section 28. In order to follow up the recommendations just made on Section 27, your Committee recommends:

That the words "unless directed otherwise as provided under Section 27, subsection (b)," be added to Section 28. Section 28 would then read: "Candidates shall in all cases be examined at the place selected for the province in which they reside unless directed otherwise as provided under Section 27, subsection (b)."

11. Section 29 requires that the exami-

nation fee must accompany the application. Your Committee recommends:

That this By Law be strictly observed.

12. Section 35. After much thought and consideration we have concluded that if a candidate writes a paper and receives a pass mark he should not be required to rewrite that paper irrespective of whether he fails in two-thirds or more of his other papers. We also feel that this Section is not clear regarding the fee for supplemental examinations. As a result we recommend the following:

(a) That the first paragraph of Section 35 be deleted as superfluous in view of our recommendations.

(b) That Section 35, subsection (b), be redesignated as subsection (c):

(c) That a new subsection (b) be inserted to read as follows: "Any candidate who writes a supplemental examination on the date set for a regular examination shall be required to pay the regular fee required for examination in that subject."

13. Section 37. This section deals with pass marks and is not clear in its meaning. In addition we feel that a pass mark of 50% in clinical examinations is not sufficiently high. We therefore recommend:

That Section 37 be rewritten as follows:

"Pass Marks. Written examinations 50%. Clinical examinations 75%. The report of the Presiding Examiner on clinical examinations shall be final."

14. Section 41 deals with the Code of Ethics of the Dominion Dental Council. Your Committee feels that Article 2b is not clearly written and recommends that:

Section 41, Article 2b, be redrafted so as to clearly convey the meaning intended. We further suggest that the Code of Ethics of the Canadian Dental Association be examined by the Council to ascertain whether it more nearly meets

the requirements of the Dominion Dental Council.

15. The form for application for examination has been the subject of careful study with the result that the following recommendations are made:

(a) That a section of the application form should contain a statement from a proper authority of the University the applicant has attended to the effect that the applicant has passed in those subjects in which he desires to be examined.

(b) That the application form shall have a perforated section carrying the signature of the applicant attested by a Notary Public or other responsible person. (This is in addition to the signing of the application.) This perforated section, properly filled out, is to be returned to the Presiding Examiner by the Secretary-Treasurer as his means of identifying the applicant.

16. There is, apparently, no definite method by which the student is made acquainted with the functioning of the Dominion Dental Council. Your Committee feels that the student in the University of an agreeing Province should be thoroughly posted on this important matter and therefore recommends:

That the Secretary of the Dominion Dental Council should forward a form letter to each student of the first, second and third years during the pre-Xmas term explaining the workings of the Council and setting forth briefly the desirability of obtaining the Dominion Dental Council certificate and the advisability of writing progressive examinations.

17. The list of examinations required is contained in the By Laws. It appears that the names of the subjects appearing on the official Dominion Dental Council examination Time Table do not always correspond with the names of the sub-

jects as officially listed in the examination requirements. Consequently it is recommended:

That the names of the examinations as listed in the official examination Time Table, and as listed at the head of each examination paper correspond with the names of the examination subjects as listed in the By Laws.

18. With reference to candidates for Class A examinations much thought and discussion has been given to the subjects on which these candidates shall be examined by the Dominion Dental Council. Some members of the profession feel strongly that such fundamental subjects as Physics and Chemistry, Physiology and Histology, etc., should not be examined by the Dominion Dental Council but that the Council should accept the examination of the applicant's College for such subjects. After much deliberation your Committee feels that for the present it is wiser for the Council to remain the examining body in all of the examinations and therefore recommends:

That no change be made in the subjects upon which the candidate is to be examined as at present enumerated under Section 32 of the 1933 printing of the Constitution and By Laws.\*

19. Any change in the Dominion Dental Council's requirements for examination is vitally important to the Provincial Dental Board of Nova Scotia, as the Nova Scotia Board Examinations are set forth in an Act of Legislature to correspond with those enumerated under Section 32 of the 1933 printing of the Constitution and By Laws of the Dominion Dental Council.

It is therefore recommended:

That the Nova Scotia Dental Board be promptly advised of any change in the examination requirements of the

\*This report was adopted by the Nova Scotia Dental Association, with the sole exception of this Section No. 18. It was suggested that the matter treated of in this Section be left in the hands of the Council, in consultation with the Deans of the Dental Schools, in the agreeing provinces.

Dominion Dental Council.

20. A number of the papers as set by the Dominion Dental Council contain two or more subjects. On some occasions it has been very difficult for the Presiding Examiner to differentiate which questions belong to the different subjects concerned. In the event the student is writing only one of two subjects covered in an examination paper, it is not the province of the Presiding Examiner to distinguish which questions belong to the subject being written; the responsibility should not rest either with the Presiding Examiner or the candidate, but rather with the examiner who sets the paper. Therefore, your Committee recommends:

That where an examination paper covers more than one subject that the questions on the paper be listed under their respective subjects in order to avoid any confusion.

21. In reading over recent examination papers covering two subjects, we have found in a number of cases that, for example, out of a total of seven questions, two of them would be on one subject and the remaining five on the other. Since the candidate is required to make a pass mark in each and every subject, it would seem unfair to give him a total of five questions in the one test and only two in the other. Consequently, your Committee recommends:

That the Council take this matter under consideration and take what steps they consider advisable.

22. Inasmuch as the Presiding Examiner is responsible to the Candidate for all matters relative to the examinations your Committee recommends:

That the Presiding Examiner of each Province be notified promptly of any change in the By Laws of the Council.

23. Your Committee have in hand Financial Statements of the Council for the two year period ending April 30/36. A perusal of the statements shows that

the revenue of the Council during that period was insufficient to meet the operating expenses. As a result it was necessary to sell one bond held by the Council and apply the revenue therefrom to operating expenses. This, of course, reduces the income per year by the amount of interest accruing annually on the bond sold. Such a method of financing, while it may be essential on occasion, would soon seriously involve the financial structure of the Council. Again, your Committee feels that there should be no serious difficulty in obtaining splendid representatives on the Council who could afford, and be willing, to attend the Council meetings without a per diem allowance, providing expenses were paid. No doubt many of those now serving on the Council would be quite willing to continue to serve on such a basis. This would result in a decided saving to the Council. In addition, in order to raise the revenue without undue hardship to the candidates, a small increase in the cost of the examinations would be markedly beneficial. In view of the present financial situation of the Council, this Committee therefore recommends:

(a) That representatives on the Council receive all travelling expenses but no "per diem" allowance.

(b) That the examination fee be \$4.00 per paper and \$4.00 per clinical examination, making a total examination fee of \$80.00.

(c) That if this last recommendation becomes a part of the By Laws of the Dominion Dental Council any candidate, who, at the time this By Law takes effect, has commenced the examinations of the Council, shall be allowed to take all the remaining examinations at the fee in effect at the time the examinations were commenced.

A. W. FAULKNER, *Chairman.*

G. R. HENNIGAR.

H. M. EATON, *Secretary*



## “Nineteen Thirty - Seven”

by STUART K. OLDFIELD, D.D.S., Halifax, Nova Scotia

THESE thoughts are not, as they would have been, before the war of 1914, in this country at least, the wistful vapourings of a dreamer, a fantastic Jules Verne sort of individual. They are brought to the surface by the fact that on this side of the Atlantic all national bodies of both dentistry and medicine seem utterly determined to emulate the tilting of Don Quixote. In a great plethora of words, every official article and every official uttering in print goes into the same chant, the last lines of which usually are “And if the profession doesn’t organize and promote a different way of service then the matter will be taken out of our hands, and handed over to the politician.”

At meetings when these mystic words are finally spoken, a subdued hush comes over the gathering, wrinkles appear on the brows, and complete agreement is evident. Sometimes the wrinkles don’t appear until the motion is passed, whereby the assemblage goes on record as being unalterably opposed to state dentistry, panel dentistry, or socialized dentistry. The motion is, in fact, opposed to any change which can in any way be constructive. Of course this is highly commended by all present and with the phrase “the initiative of the individual which is the keystone of progress, shall not be impaired in this country by any group of politicians,” the frowns on some faces do not disappear. Of course they are slightly confused, and really can’t see that anything objective has been done—of course it hasn’t—how could it? When in one breath you say the matter will be dealt with by others if we are not careful, and in the next utter a pious

platitude about individual initiative, how can anything be done?

Dr. Herbert E. Philips in his very excellent paper read before the Englewood Dental Society, Chicago, in 1934, quoted Dr. Warnshius of the A.M.A. house of delegates as follows. “There is one thing stronger than armies—an idea the time of which has come. The idea of necessity for some provision of adequate medical and dental care for the lower income bracketed groups is here. Shall we not embrace it and assume leadership that will place us in an impregnable position with a militant supporting force? To the timid and hesitant everything is impossible; we dare not be timid.”

Now this paragraph contains the words of an individual, and must not be construed as the opinion of the A.M.A. (Written prior to the 1937 meeting of the A.M.A.). But whether you think that the above is true, or if you prefer to believe, as I do, that social changes are taking place in this country rapidly, and we shall be part of the change, let us by all means formulate a constructive plan for taking care of the nation’s oral health. Now an excellent reporter and student of world affairs has said that in the near future countries will have one of three forms of government—

1. Communism, in one of its forms.
2. Fascism.
3. A modified democracy.

Many countries have already embraced the first or the second, and these states, much as some deplore it, are in a position of prominence. True, it may not last, but do not think that they will go

back to the old form of democracy. In any scheme of government the welfare of the mass of people is receiving more and more attention. Sometimes this is but a prelude to fitness for warfare, but whatever the ultimate object is, the attitude is evident. I cannot realize what individuals who oppose any traffic with what they call "isms," have in mind. I can grant them the many bad features of any compulsory health service. The services are controlled by the ruling powers, not by the dentists in the case of this profession, and I really don't believe that the dentist will ever control his branch in such a scheme. Medicine by virtue of—first, the low cost of practising to the individual; second, the ability to check epidemic diseases, and third, the existing facilities for groups to administer their services, will not suffer very much in proportion to dentistry in any such scheme. The two professions have a wide gulf between them in prestige, in earning ability, in age, and most of all in the method of practice. Roughly, a medical man charges by what he knows, and we by what we do. They stress the knowledge, and we, unfortunately, the restorations.

Now because of this essential difference we shall receive relative recompense for what we do in any scheme of socialized dentistry, or panel dentistry. Call it any name that you wish, they are all variations of an idea. In the countries where it is in operation an idea can be gained of the evils resulting by reading the reports of the members of the A.D.A. who investigated them. In a phrase used by one member it is "blood and vulcanite" dentistry. This is descriptive enough.

Now in these countries no one in the profession wanted this to come about; some may have wanted that way of practice, but not the inevitable lowering of the type of work. But because of low fees

the individual, to maintain himself, has to give a corresponding type of work. Now this arbitrary stand of no interference will lead us to the same spot.

Let us have the present committee of the C.D.A. inform all the members as to what action is being taken. Has it formulated plans which can be used to embrace a system of state dentistry? Has it enough influence to get a better deal for the dentist? Do the members still think that dentistry is regarded as a specialization of medicine? Are they under the delusion that it will receive the same consideration?

I think that only the very young mentally can see any virtue in a system such as the panel. We are much better as we are, or with a completely socialized profession with no fee dictation but a salary from the government and that probably very small. But if it comes, what then? We seem to have no ideas; we deplore, but we offer no solutions. And I am not forgetting the various plans in operation in the U.S.A. I have studied them and they offer nothing of value except the idea of co-operation. The world changes while we watch, and many keep on watching till darkness interferes with their vision.

The dentist in Canada is striving to give the best attention to the patient, and this effort is costing him anywhere from 40-60 per cent of his gross income. This can only result in one thing; thousands are suffering because of lack of money to afford dentistry. If you think that this will continue indefinitely, well and good. But we may have to stop this, reduce our overhead to 10 per cent to make even a living for ourselves. Then we will see "blood and vulcanite" dentistry for ourselves. There are many angles to this question. In any panel scheme the cost of supplies must be taken out of the hands of the present dealers and put into the hands of the government. The latter,

if it insists that we shall practise as it says, must shoulder the burden of lower cost of materials. The supply dealers render a service, but it is certainly an unproductive one, and should not be supported by the government which promotes state dentistry. There are many other sides, but have they been con-

sidered? If so the rank and file have been kept in the dark. Lack of funds is no bar to objective thinking, and the cost of getting statistics from dentists would not be oppressive. No one really knows what the dentists want. Yes, perhaps you are right, do they know themselves?

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## Financial Training for Your Son and Daughter

*A Plan to Help You Keep Their Confidence as They Grow Older*

by R. M. HAULTAIN

*Reprint from "Canadian Insurance."*

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ARE your youngsters learning financial navigation? There is a lot of fun for you and for them in this game.

Big merged companies and mechanical systems are not kind to untrained boys and girls who are applying for jobs. Our youngsters will face colder blooded competition than we ever knew.

Perhaps you are looking for ideas so that you can give your boy or girl the kind of leadership on this question that can be given only by you. Here is one plan which has proved itself. Vary it to suit your own views and the bents of your own boy or girl. The main idea is to have your youngsters meet your trusted friends in the different financial fields, in logical sequence, and gradually absorb sound ideas from them, as well as from you.

### LEARNING THAT MONEY MEANS WORK

The father and mother who worked out this plan did not dole out matter-of-course pocket money. It is seldom appreciated. Their youngsters started to

earn it at home when they were about seven years old. They started by earning one cent each time they shined their shoes. Later on they got a salary increase of one cent a day for making their beds as well. Then came extra earnings for doing odd jobs at home, and helping their over-worked mother out a bit.

Thus they came to associate money with work, and learned that a five-cent ice cream cone is bought by making their beds for five days. They learned that it takes quite a number of shoe-shines to earn the price of a movie.

The first type of bank with which these youngsters became acquainted was the home tin bank into which their copers went; and from which they were shaken out to be spent. Then came the penny bank when they went to school.

Here are the nine steps in this family's broad financial training course as the youngsters progressed through their 'teens. The plan does not require any outlay in educational fees. It is designed for the modest home. The big necessity

to make it a success is vision on the father's and mother's part.

#### STEP I. MAKING FRIENDS WITH THE BANK

One Saturday morning, when the eldest boy was about eight, the father said, "Son, suppose we go over to that big bank on the corner and see what they do in there. I have a friend in that bank. Let us get him to show us."

The boy was introduced to the friend in the bank who made him feel at home; showed him what a savings account is; how a pass book would be made out for him if he decided to have one; and how the bank could always tell him how much money he owned.

The father encouraged the boy to have a savings account, and then left him with the banker to make his first transaction by himself in the world of finance.

Later, when the boy was showing the family his pass book and cheque book the father said, "The firm I am with borrows about a hundred thousand dollars every year from the bank. Some day you may want to do that, Son, so if they have known you from the time you are a little shaver they will have more confidence in you."

The impression of cold austerity given by the bank's front was removed from the boy's mind, and he felt that he had friends inside. He was encouraged to build two savings accounts; one at the school penny bank, and the other at the commercial bank.

#### STEP II. RECORDING RECEIPTS AND EXPENDITURES

A simple record of receipts and expenditures was the next step. Many an expenditure looked so silly a week or two later that this record was a big factor in helping the boy to acquire good judgment in a perfectly natural way.

#### STEP III. ENCOURAGING PROFITABLE HOBBIES

The boy was then encouraged to earn

some money for himself outside the home. Different ideas were discussed and tried. A camera proved to be a money-making hobby which developed into a profitable little snapshot business. The other fellows at school were the customers, and the boy's university course was partially financed this way later on.

He caddied at the golf club during his summer holidays, and made himself known to men who would be useful to him when the time came to get a real job, or to sell those men.

He learned something about how a business is run by delivering rush orders on Saturday afternoons for the druggist, using the bicycle he had won from a magazine subscription club.

Hobbies were encouraged which could be operated on a profitable basis by way of developing the boy's trading instinct which would be so valuable to him in later life.

This boy finally had so many activities that he just wasn't interested in the pool room or the beer parlor. He never said, "Aw, gee, there's nothing to do in this town."

#### STEP IV. LEARNING THE VALUE OF INTEREST

Quite early in the game the father wanted to plant in the boy's mind the realization that money can and should earn interest; so he made a practice of borrowing money from the boy for a definite period—usually three days—paying him interest on the loan. Thus the boy got a practical lesson in what he was told at school about interest. He came to realize that compound interest is one of the most powerful friends a fellow can make, and if he learns that early enough in life, he will not be on relief when he is old.

#### STEP V. BUILDING THE SAVINGS ACCOUNT

Whatever the boy earned for himself,



the father matched for the savings account at the end of each week. This kept the boy's interest alive in his little accounting system. If he could not produce his accounts he naturally got no money. The broad idea behind this matching was to encourage the boy to feel free to use his own earned money for whatever he wanted to buy; but with the definite feeling that his savings account depended directly on his own earnings. This was instead of a something-for-nothing pocket money allowance, which would never have been appreciated to the same extent. It forestalled any possible tendency to develop a miserly outlook with regard to money.

#### STEP VI. CREATING AN OBLIGATION

When the boy had fifty dollars in his savings account in the commercial bank, the father and the banker arranged to give him an object lesson in the value of meeting an obligation. Now came the boy's first real business relationship with the bank. He and his father went to the bank manager and arranged a loan with which to buy a small government bond. The bond was to be assigned to the bank as security for the loan, until the loan was paid off and the assignment cancelled. The bank manager told the boy how successful men use the bank this way in business.

The loan arrangements completed, the boy was introduced to a bond dealer who explained the background and mechanics of a government bond, and how to exchange the coupons for money on the due dates. Thus the boy made another reliable financial friend.

#### STEP VII. RENTING SAFETY DEPOSIT BOX

By way of enlarging the boy's financial vision, and widening his contacts with responsible financial institutions, he was then introduced to a trust company and a safety deposit box was rented. The small annual rental charge was paid by the

father as an investment in education.

"Well, Son," remarked the father as they looked around the vault, "this box is your own private hiding place for your valuable papers. You can keep anything you like in it away from the prying eyes of the family. Only it is not exactly the place for frogs or garter snakes."

The papers in connection with the bond purchase were put in the box.

#### STEP VIII. LEARNING WHAT LIFE INSURANCE DOES

The boy was then introduced to the father's life insurance man, who explained the idea behind that great co-operative institution; why practically every responsible person has a policy or so; and why many fathers have a whole program consisting of a dozen or more.

He sowed the seeds in the boy's mind of his responsibility towards his mother, and how this was a wonderful way to help his father protect her. He appealed to the boy's finer senses in this way, instead of appealing only to his cupidity by dwelling on the accumulation side of the policy.

The examining doctor then gave the boy some hints on keeping himself in good trim for athletics. As this was the first time the boy had ever had a talk with a doctor by himself, the doctor also told him some other things, by arrangement with the father.

The father contributed the balance of the first year's premium deposit after the boy had put in something himself, and the policy was placed in the safety deposit box.

Why did the father start the boy on his life insurance program at such an early age? Because he says he wishes that his own father had started him at that age. Also largely to make sure that the boy would have some insurance nailed up at about half adult rates in case he became uninsurable before he could realize how he would need it later on.

Also because it was part of the broad lesson the boy was getting in thrift; in fact, the major part. And thrift brings what is often called good luck. Is good luck not usually the result of confidence based on knowledge? All his life, due to his early training, this boy will have confidence, based on knowledge.

Also because many employers nowadays make a practice of asking young men what life insurance they have when applying for employment. Some employers figure that the young man who offers to show a couple of life insurance policies is showing a character test many times more valuable than written references or verbal "pull."

#### STEP IX. LEARNING ABOUT STOCKS IN THEIR PROPER PLACE

One evening when the boy was well up in his 'teens, the father looked up from the financial page of his newspaper and said, "Son, you have your savings account, your bond, and your life insurance policies. I think you have the necessary judgment now to take a look at stocks. A good stock, bought outright, ought not to tempt you into marginal entanglements. Suppose we have a talk with a sound stockbroker I know, and see what he would advise. He deals mostly with older men, and may advise you to stick to building up your life insurance for a while yet, but the more you know about stocks the less liable you are to get into jams over them with your own money, and later with other people's money. I will tell him why I believe you have enough judgment now to buy a good stock outright without losing your sense of balance."

The boy, by this time, was becoming accustomed to transacting his own business, and was beginning to get the idea that the financial world consists of several major types of business which should be explored in their logical order

if he was to build on a sound foundation.

#### RESULTS OF BROAD FINANCIAL TRAINING

This boy, now that he is a man of twenty-one, has substantial holdings for his age, built up in their logical sequence. Of greater importance, however, is his quiet confidence. He glows with it. He is getting the feel of the financial world on account of his personal contacts in it. When he wants to marry he is in shape to swing the purchase of a modest home to start in.

He knows better than to put the headlight on the back of the car and dabble in marginal speculation as the chap at the next desk is doing, who has had no financial grounding; has no definite objectives; and who is of little use to his employer because he has his mind on the fluctuating price of his stock instead of on his job.

He knows better than the chap at the desk on the other side who thinks the normal thing to do is to plunk his first fifty dollars saved into the down payment on a roadster before he has any fixed savings behind him.

Which of these three young men is most likely to be selected for promotion when the time comes for the choice to be made between the three of them?

With things as they are today, isn't early training of this sort just as necessary for your daughter as for your son if you cannot leave her an assured income? Even if she will never have to earn her own living isn't part of it highly desirable?

The other day a business man said, "I have always been too busy to think out a plan like this for my youngsters. Now they are too old and it is too late."

Why not start by saying to your youngsters this evening, "How would you like to start earning a salary?"

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# Problems in Practice

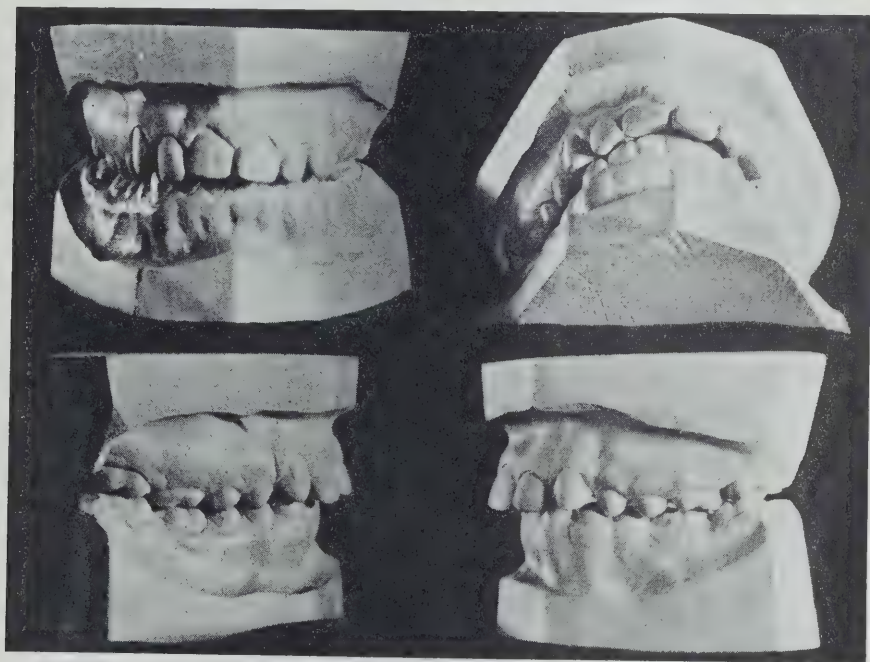
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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM ONTARIO:

I have a patient, age 16, whose upper incisors completely overlap the lowers, the lower incisors striking the uppers just at the margin of the gingivae and forcing the upper teeth slightly to the labial. (Figs. 1, 2, 3, 4.)

Should an attempt be made to open the bite and, if so, how can it be accomplished, or would you advise shortening the lower anterior teeth by grinding the incisal margins so as to relieve the pressure on the upper teeth?—J. W. E. Brown, Caledonia.

## REPLY FROM BRITISH COLUMBIA:

Generally speaking, it is inadvisable to make a diagnosis and prescribe treatment in cases of mal-occlusion from casts alone. However, this much can be determined. First, the arches are too narrow, and there is considerable lack of vertical development in the molar region; so that one would be safe in assuming that, by increasing the width of the arches and attempting some vertical development in the molar region, the over-bite will be taken care of.—W. J. Lea, Vancouver.



**REPLY FROM NOVA SCOTIA:**

Vertical overbite in the incisor region may be due to deficiency in vertical height of premolars and molars, or to over-eruption of incisors. Howard (*International Journal of Orthodontia*, Oct., 1930) suggests that facial balance is the most valid criterion in deciding which condition we are dealing with. If the former, the jaws will be too close together and the lips unduly prominent; if the latter, facial length will be satisfactory.

Facial photographs of the case submitted would be necessary in attempting diagnosis in line with the above. As these are not available, the following suggestions are made tentatively. Where the overbite is due to supraversion of the incisors (facial length correct) one sometimes notes a lingual inclination of premolars and molars, the correction of which, by widening the arches, tends toward a normal incisor overbite, at least enough to lessen the danger of upper gingival trauma when this is present. This case appears to present this lingual inclination to some degree. Another interesting feature is that while the lower right first molar is in typical antero-posterior relation with the upper molar, the lower first premolar is distal to its typical occlusal position: also, on the left side, while the lower first premolar is typically placed, the lower first molar is slightly mesial. This is probably accounted for by a slight rotation of the lower first molars, but chiefly by an exaggeration of the curve of spee. Mesio-distal measurement of the maxillary and mandibular teeth did not confirm the suspicion that the mandibular teeth might be relatively too small.

One wonders if this case is a significant clinical orthodontic problem. Several features, as enumerated, combine to constitute an interesting and perhaps extreme occlusal variation, but in the absence of

evidence that there is gingival irritation or aesthetic disharmony, it is an open question if treatment is indicated. The above-noted article by Howard is recommended to your correspondent.—*W. W. Woodbury, Halifax.*

**REPLY FROM QUEBEC:**

The age of this patient is a difficult one from the orthodontic standpoint. However, I think orthodontic treatment is preferable to any other treatment that the patient might receive even now.

If given the case for treatment I would expand the upper arch from the first permanent molar on and change the angle of inclination of the incisor teeth. Expand the mandibular arch also and by using a series of bite plane appliances, I would open the bite and allow the posterior teeth both upper and lower to grow to a greater vertical length and thereby reduce the anterior overbite.

I do not think that the grinding of the lower incisors will help the condition to any extent except perhaps momentarily but it is certain that by grinding these lower incisors great injury will be done eventually and the overbite remain as it is.—*A. W. McClelland, Montreal.*

**REPLY FROM ONTARIO:**

1. The first part of the question, namely—"Should an attempt be made to open the bite" might be dealt with as follows: In general, a female sixteen years of age should have reached maturity. No further growth in stature or increase in vertical growth of the jaws may be expected unless the skeletal age of the patient has not kept pace with chronological age. A roentgenogram of the hand provides a reliable index to the skeletal age. If the epiphyses of the radius and ulna have not united, maturation is delayed and growth may still occur. If,



therefore, the patient is immature and a careful examination of the profile indicates that an increase in the vertical dimension of the lower third of the face would improve facial balance, orthodontic methods for the correction of the case may be considered

If, on the other hand, epiphyseal union of these bones has taken place, the patient has reached maturity. Therefore, further vertical growth of the facial bones may not be expected. Consideration must then be given to some other expedient for the correction of the condition.

2. Referring now to the second part of the question—"How can it be accomplished?" Assuming first of all that the patient is immature and correction by orthodontic treatment is feasible, lateral expansion of the buccal teeth in both the maxillary and mandibular arches appears to be indicated since the crowns of these teeth appear to tip lingually (Note—the lingual tipping of the crowns of the buccal teeth is often indicative of external pressure upon these teeth either from a habit of resting the head upon the hand or closed fist in the daytime, or sleeping with the face upon the extended arm at night). The buccal tipping of these teeth may be accomplished by means of a lingual arch wire and auxiliary springs. When the arch form is normal the optimal vertical growth which should, of course, result in a decrease in the overbite, may be accomplished by the insertion of a vulcanite retaining plate of the Lawley type constructed with a bite block in the anterior segment and an adjustment wire to tip lingually the maxillary incisors to reduce the overjet at the same time as the overbite is reduced. Biting exercises upon the plate may be prescribed to intrude the mandibular incisors. The plate will need to be trimmed away to permit these teeth to move lingually.

3. Regarding the third part of the question, operative procedure for the trimming or grinding of the mandibular incisors is likely to yield only temporary relief as extrusion of the mandibular incisors would probably re-establish the original overbite-overjet relationship at centric position. However, as nearly as can be judged without having the case accurately mounted upon an articulator, a slight to medium degree of improvement of lateral occlusal function may be obtained by grinding.

In summing up, occlusal correction by grinding would not seem to be the method of choice for the correction of this case. If feasible, orthodontic correction would be desirable as judging by the skeletal age, the patient has not reached maturity. If mature, and the facial features indicate an increase in the vertical dimension of the face, a method such as that described by Dr. M. M. Devan, J.C.D.A., September and October, 1936, may be helpful.—*G. Vernon Fisk, Toronto.*

#### REPLY FROM ONTARIO:

In answering the above question, I have no intention to discuss the matter from the standpoint of operative dentistry. I have examined the models and in my opinion the condition presented is an orthodontic problem. This does not mean that by operative means an improvement could not be obtained but in view of the age of the patient and the condition of the teeth I might presume that a pleasing result could be obtained by correcting the mal-relations of the teeth.

From the examination of the models, it will be found that the patient has fourteen teeth present in both the maxilla and mandible. The arches are inclined to be elongated and in the case of the mandible there is an accentuated

curve of Spee with the mandibular incisors meeting the maxillary incisors on the lingual surface near the gum margin. It is quite possible that this patient indulges in some habit such as biting, or moistening the lips or resting the chin on the hand and for a satisfactory result it is absolutely necessary for these habits to be corrected before the patient is dismissed. The molar relation is fairly normal as regards the antero-posterior position but on the left the cusps of the molars and the premolars show better occlusion than on the right side. The maxillary incisors have a distinct labial version which I believe will become worse unless some correction is made. This condition is very prevalent at the present time in many patients. Often dentists will attempt to correct this condition without changing the bite, which will result in a relapse in a very short time.

Referring to the case under discussion, I would suggest that both arches be developed laterally and in the case of the mandible the crowns of the anterior teeth moved lingually so that the roots are situated below the crowns. In the case of the maxilla, the crowns of the six anterior teeth should also be brought lingually so that a normal relation is obtained with the mandibular teeth. When this is done, the operator will find that the posterior teeth are not in occlusion and at this stage it will be necessary to insert a bite plane of some nature. I have no intention of discussing the question of bite planes but would suggest that the following papers be read:

Postoperative Treatment of Class II.—C. A. Hawley. Vol. 7, page 591.

The Principles and Art of Retention—C. A. Hawley. Vol. 11, page 315.

The Removable Retainer—C. A. Hawley. Vol. 14, page 167.

A Consideration of Bite Planes in Orthodontia—V. H. Jackson. Vol. 8, page 1.

All of the above refer to the International Journal of Orthodontia. This question is also discussed in the text-book entitled "Applied Orthodontia", by James McCoy, and also "Practical Orthodontia", by Dewey Anderson.

The wearing of a suitable bite plane should result in a readjustment of the curve of Spee. The molar teeth should not exfoliate but there should be an actual increase in vertical growth in the lower third of the face. In some cases it will be found necessary to wear a bite plane of some nature for a considerable time after the teeth have been brought in to their proper relations. If the plane being used is the removable type, the patient can be instructed as to its use and the appliance worn at different times over extended intervals. In my own practice, I have corrected a considerable number of cases by this method and have found the result very pleasing. However, I would not suggest that a dentist undertake this treatment unless he has had more than the average experience in the field of orthodontia.—*Stephen A. Moore, London.*

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*American steel workers in one and one-half hours can earn enough to fill a market basket with a dozen eggs, a pound of bacon, a loaf of bread, a bottle of milk and other items; while it takes the English worker three and three-quarter hours, the German worker seven hours and the Belgian worker fourteen hours to accomplish the same thing.—(A.D.A. Press Release Service.)*

# The Forum

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## • THE NEWER PLANS FOR COMMUNITY DENTISTRY

by ALFRED WALKER, D.D.S., New York City

*(Conclusions of paper read at Annual Meeting of the Dental Society of the State of New York, May 1937, and appearing in the Journal of the American Dental Association and Dental Cosmos, July 1937).*

WE CANNOT stress too much the fallacy of the assumption that dental service will fit into any health program that may be evolved. This attitude is, as shown, due to false concepts of what constitutes dental health service. If dental treatment is to consist of something more than a purely emergency service, it becomes important that certain differences between dental service and medical service be given serious consideration. Many persons, throughout a long life, require practically no medical service; and many others require very little and at infrequent intervals; and many persons come through serious illnesses without medical aid. On the other hand, it is well known that:

1. Practically everybody frequently requires dental service.
2. Dental disease is predictable.
3. Unlike most other diseases, dental disease does not correct itself.
4. Uncorrected dental diseases grow progressively worse.
5. There are no known preventives, such as vaccines and antitoxins, for dental caries.
6. Correction of tooth affections always requires the personal service of the dentist.
7. Dental treatment is time consuming.
8. Dental disease is a constantly recurrent disorder that necessitates continuing treatment year after year prac-

tically through life, or at least as long as the teeth are retained.

9. Adult service frequently differs markedly from that for the adolescent.

10. There are many types of dental service, some acceptable, some not, the type of service varying with the skill of the dentist as well as the ability or willingness of the patient to pay.

These ten points are enumerated as some of the outstanding differences which influence the administration of dental service as compared with medical service. If the public health is to be adequately served, these important conditions may not be disregarded in planning a program for adequate "health service."

It must be obvious to anyone understanding the problems involved in providing a dental service as part of a community health service, that complete care for adults whose mouths have been neglected is, because of required chair time, cost of materials and processing, practically impossible. Therefore, the adult service must of necessity be of a very limited type. This fact should be frankly stated at all times.

There can be no denying that trends point toward a more widespread distribution of health service. The evidence is before us in a large number of local programs in actual operation, only a few of which were mentioned in this paper. Furthermore, in the organized movements for state-wide and nation-wide programs, the views of physicians on the medical aspects of health service as expressed in American Medicine disclose an awareness to the situation on the part of the medical profession.

The dental profession should take cognizance of the situation and get into action. Medicine has its own problems, and we have ours; and, as stated before, in many respects, ours differ from those of medicine. One of our first duties is to come to an understanding as to the objective of dentistry, and to define dentistry in public health. The formulation of standards and policies in public health programs is urgent. They should be subject only to such modifications as conditions demand, but should not be elastic to the point of unworkability.

The aim should be to provide a complete service for children within the limits of available facilities. "Children first" should be the slogan; for only by following such a program can we ever hope to accomplish any real good. It has been demonstrated time and again that it is futile, from the standpoint of permanent benefit, to attempt to provide an adequate service for all.

A policy based on a division of the facilities, 80 per cent for children and 20 per cent for adults and adolescents, may appear to be a harsh one, but it would result in a more permanent good than does the haphazard "Take them as they come" policy. Under the latter plan, many children are excluded in order to provide a partial and questionable type of service for adults who, through neglect, are crippled beyond repair. In many instances, the time and money expended in such efforts amount to actual waste.

The standards of dental service followed on the North American continent are acknowledged the highest anywhere. The adoption of any policy that would tend to lower this standard is unthinkable.

Under a health insurance program, for example, only an emergency type of dental service could be provided, because practically all the insured would require continuous dental service; whereas, many

of the same persons would not require any medical service and many others very little. It is the latter group that makes insurance possible. To include a complete dental service would make the cost of insurance prohibitive. This, of course, would not be the case when a complete service had been provided for the pre-school and the school child.

It is because of the absence of a definite public health policy for dental service that the dental profession in many communities finds itself helpless in the face of situations wherein uninformed officials have undertaken to administer dental service under conditions which are an imposition upon those receiving it and extremely damaging to the dental profession.

We should no longer allow the question to go by default; it is our duty to decide the direction in which it shall develop. We have an obligation both to the public and to ourselves which we must not ignore.

#### • COLUMBIA SURVEY SETS VALUE OF DENTIST'S CAREER AT \$95,400

Study Indicates Banker Could Lend That Sum on Pledge of All Income

ON THE basis of income and working life span statistics gathered by Professor Harold F. Clark, in charge of Educational Economics at Teachers College, Columbia University, it is now possible to predict how much a budding dentist, lawyer, or architect is worth as an investment when he starts his profession.

To develop means of guiding students more accurately into the paying professions, Dr. Clark studied 4,400 magazines and several thousand books on occupations in American and European libraries. He and his staff also maintained close contact with the officers of many occupational associations.



After spending eight years in surveying sixteen selected occupations, Dr. Clark came to the conclusion that the present estimated value of the future life earnings in the various occupations ranges from \$108,000 for medicine down to \$10,400 for farm laborers.

| Occupation             | Working Life Span | Present Value of Average Earnings for a Working Lifetime. |
|------------------------|-------------------|-----------------------------------------------------------|
| Medicine .....         | 42                | \$108,000                                                 |
| Law .....              | 43                | 105,000                                                   |
| Dentistry .....        | 45                | 95,400                                                    |
| Engineering .....      | 43                | 95,300                                                    |
| Architecture .....     | 43                | 82,500                                                    |
| College Teaching ..... | 44                | 69,300                                                    |
| Social Work .....      | 45                | 51,000                                                    |
| Journalism .....       | 46                | 41,500                                                    |
| Ministry .....         | 44                | 41,000                                                    |
| Library Work .....     | 46                | 35,000                                                    |
| Pub. Sch. Teach. ....  | 45                | 29,700                                                    |
| Skilled Trades .....   | 44                | 28,600                                                    |
| Nursing .....          | 40                | 23,300                                                    |
| Unskilled Labor .....  | 44                | 15,200                                                    |
| Farming .....          | 51                | 12,500                                                    |
| Farm Labor .....       | 51                | 10,400                                                    |

—*Bulletin of Chicago Dental Society, August 5, 1937.*

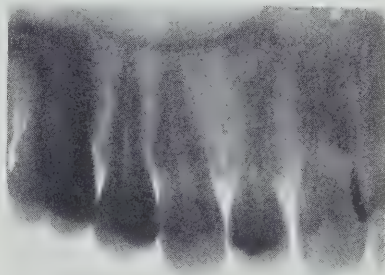
## • THE PROFESSIONS

DESPITE increased requirements for admission to the professions, the number of professional men in the United States is increasing at a far more rapid rate than the rest of the population. Depression difficulties in financing an education failed to diminish the attraction of the law, medicine, and dentistry as a means of livelihood. The report on the national income, which has just been released by the department of commerce, shows that in 1929 there were 102,211 lawyers in private practice. After four years of depression the number had increased to 122,908, and there was a further advance to 126,685 in 1934.

The number of physicians and surgeons increased from 119,324 in 1929 steadily each year to 126,253 in 1934, the last year for which there are figures.

As of the most recent report we have 63,452 dentists, which is a 6,000 gain over 1929. — *Chicago Tribune* — *per Journal of Michigan State Dental Society.*

## • UNUSUAL ROENTGENOGRAM



CASE of a transposed upper left cuspid and bicuspid of a lady, aged 27, presented by Dr. D. W. McCord, Swift Current, Saskatchewan.

## • PERSONS WHO CANNOT WEAR DENTURES

ACCORDING to Dr. Alvarez, of Minnesota, persons who cannot wear dentures are usually women of a particular type. They are all hypersensitive, nervous and fussy; everything annoys them and they are full of aches and pains. Very often they say that they can never brush their back teeth without being nauseated. As for the dentures made for them, either they burn the palate or they do not fit; or they can never forget they are in the mouth and make them nervous. These women go from dentist to dentist hoping to find someone who will make them comfortable but without success. This is not surprising, says Dr. Alvarez, for the trouble is with them and not with the dentures. The lesson to be learned by the doctor is that he must recognize this type in time—and spare himself the misfortune of being responsible for the misery which will certainly

follow the removal of all remaining teeth if he advises this treatment. A toothless woman prematurely old and disfigured and her long-suffering family will not soon forget to curse the man who brings such misfortune on them, especially if the general symptoms for which the extractions were done still remain unchanged. These are sensible words and every dentist is familiar with this type of person. What is remarkable is that these words are not written by a dentist but by a physician, and occur in an editorial in the *American Journal of Digestive Diseases and Nutrition* for April.—*British Dental Journal*, July 1, 1937.

#### • THE PRESENT STATUS OF PULP TESTING

By THEODORE KALETSKY, D.D.S., The New York Institute of Clinical Oral Pathology.

AT THE present time, the investigations indicated that the most reliable instrument was one having one electrode to be applied to the tooth and the other to be applied to some other part of the body. All other types of instruments were comparatively unreliable. The importance of the use of a galvanic or direct type of current in preference to alternating current was also stressed. The former gave much more reliable results. The best results in making interpretations were obtained by studying the comparative responses between the tooth in question and the corresponding tooth on the opposite side, which was used as a control. It was found that a tooth could still be normal and respond with a variation of 20 volts from the control tooth. Interpretations were made on the comparative study of the voltages used.—*Excerpt from Journal of the American Dental Association and Dental Cosmos*, July, 1937.

#### • "RICH MAN'S" AND "POOR MAN'S" MEDICINE

A ROOT error at the bottom of the wrong thinking about socialized medicine is the assumption that any one doctor is just as good as any other doctor. At present the worker can pick his own physician; under socialized medicine he can choose only among the panel doctors. Are the panel doctors likely to be better or poorer than the ones in private practice? It would be invidious to cast the slightest reflection on any medical man who may be thinking of going in for state medicine, but would it be human for a man who could make a good living in private practice to accept instead a poor living on the panel? Would or would not state medicine be likely to sort out the physicians into two lots, the "rich man's" doctors and the "poor man's" doctors?

This splitting effect of state medicine has not been stressed very fully before. It is of the first importance to the classes who will be relegated into the "poor man's" medical category, and they should be awakened to its possibilities.—*The New York State Journal of Medicine* (37: 538, March 1, 1937), *per Bulletin of the Chicago Dental Society*.

#### • PREVENTION OF MOUTH-BREATHING AT NIGHT

(Verhinderung offener Mundatmung des Nachts).  
W. Gollner, *Med. Welt* 9: 1683, 1935.

THE writer recommends the following method to prevent the opening of the jaw due to muscular relaxation: Attach bands with a knob to the teeth in the upper and lower jaw on both sides, preferably the first permanent molars. Before retiring, a strong elastic band is used to keep the teeth in occlusion.—*International Journal of Orthodontia and Oral Surgery*.



PRINCE EDWARD ISLAND



W. T. Wye, Charlottetown

Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

SASKATCHEWAN



F. C. Harwood, Moose Jaw

NOVA SCOTIA



A. W. Faulkner, Halifax

QUEBEC



F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

ALBERTA



John Clay, Calgary

NEW BRUNSWICK



J. F. Edgcombe, Saint John

MANITOBA



J. F. Morrison, Winnipeg

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## American Academy of Periodontology

In 1913 a number of distinguished periodontists decided that a society should be formed, to the end that those especially interested might meet and work together for the scientific investigation of dental caries and periodontoclasia; that the practice of oral prophylaxis and periodontia as an exclusive specialty might be encouraged; and that the general profession might be made fully acquainted with the results which could be obtained by proper treatment.

The first annual meeting of this society known as the American Academy of Periodontology was held in 1914 in Washington, the national capital of the United States, and since that time this group has met annually, faithfully carrying out the principles enunciated in those earlier days, until now the Academy is looked upon internationally as an authority on matters pertaining to periodontia.

The 24th Annual Meeting was held last July in Atlantic City and a most interesting and profitable program was enjoyed by several hundred periodon-

tists and those interested in this field of endeavour. One might write at length upon the high standard of the committee reports, the interesting program arranged by the Committee on Scientific Investigation, of the work presented by the brilliant list of essayists and clinicians, but at this time I shall refer only to one outstanding annual feature of this Academy Convention, namely the Round Table Discussion Luncheon. At this luncheon the members meet in groups to discuss assigned subjects under the direction of chosen leadership, and the conclusions arrived at, while not necessarily expressing the majority opinion of the Academy members, nevertheless offer the considered conclusions of a large section of this group.

For the information of our readers I shall try to state briefly some of the conclusions which were arrived at during these discussions: Properly designed and balanced bridges and partial restorations will lengthen the life of supporting teeth but as generally constructed they hasten the loss of the remaining teeth. A radiodontic and clinical examination, to determine the reparative ability and stability of teeth and supporting structures, should always be made before recommending replacements. It is recommended that lost teeth should be replaced immediately, or very early, in order to restore functional occlusion, maintain spaces and prevent drifting. Quadrilateral distribution of stresses for removable appliances should be obtained wherever possible. There was a great difference of opinion in expressing a preference for removable or fixed bridges, those present at this table being about equally divided on the question: nearly all were opposed to the fixed removable structures (Precision, Chayes). A large majority stated that all supporting teeth used in bridge-work should be vital, without exceptions or with rare exceptions. It was thought that removable bridges should be the same in effect as fixed bridges, that well designed restorations have a stabilizing effect on the teeth and that one should recheck the occlusion and adjustment of all restorations with each return visit for prophylaxis or periodontal treatment.

In the group dealing with the subject "Does the use of drugs in the treatment of periodontal disease hasten recovery?" it was considered good practice to administer a barbiturate prior to surgical procedure and following radical surgical methods. In simple gingivitis, after having attempted to remove the cause, normal saline was suggested as a mouth-wash and this was also used to irrigate following curettement of the pocket where the bone was involved. Four out of five were not in favour of using an epithelial solvent. It was considered that the use of drugs does in some cases hasten recovery but was not of primary importance; however, from the psychological aspect they should not be overlooked. Vincents Infection is thought to be on the increase and in treating it a ten per cent aqueous solution of arsphenamine was preferred.

Some further findings were as follows:—In periodontal disease, Vitamin C deficiency should be considered. The frequency of endocrine disturbance is much higher than generally suspected. Hard golds used in restorative



work predispose to periodontal lesions and should be watched. There is not enough attention being given to the anatomy of the teeth. Occlusion should be checked following orthodontic treatment. Diet is an important factor and should be checked by having the patient fill in a form of just what is eaten for a week, then analyze this. A full radiographic examination is necessary but a diagnosis cannot be made upon radiograms alone. Bite-wing pictures should accompany all full sets. Consider prophylaxis as a distinct health service and not as a menial task. From a social and humanitarian point of view periodontal treatment should be brought to the average dental patient. Periodontal disease is on the increase; certainly more people are looking for it which is an encouraging sign. It takes a good patient and a good dentist to get results, and co-operation is essential.

Much more might be said of this successful meeting if space would permit. To those of you who are really interested in giving your patients a complete dental health service I would commend the conventions of the Academy of Periodontology. No group of dentists is more friendly or more cordial in its welcome to those who wish to attend these meetings. This periodontal problem should not be placed upon the specialist alone but should be the responsibility of the whole dental profession.

"Unless the tissues which support the teeth are maintained in health, all else in dentistry is like a house built upon the sand; it cannot endure."

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## BOOK REVIEWS

**Principles and Practice of Public Health Dentistry** — by J. A. Salzmänn, D.D.S., Editor of the New York Journal of Dentistry and Head of the Dental Service of New York City Vocational Schools; with a Foreword by Alfred Walker, D.D.S., F.A.C.D., and with a special chapter by John Oppie McColl, A.B., D.D.S., F.A.C.D., F.A.A.P. and by Harry Strusser, D.D.S. 584 pages. Cloth \$4.00. Published by The Stratford Company, 289 Congress Street, Boston, Mass.

This publication is intended as a reference, text and practical manual on Public Health Dentistry. The book is divided into four parts. Part I deals with the Evolution of Preventive Dentistry, going back several thousand years B.C., and showing the gradual development up to the present time. Part II gives an account of the Organization of Dentistry and

Public Health, discussing private practice, the hygienist, assistant and technician, also co-operation between dentist and physician in Public Health. Part III deals with the Role of Official and Unofficial Public Health Agencies in Dentistry. Part IV outlines the Dental Public Health Program covering the basis and economics of community dental service, the community dental health program for children, community dental service for adults, standards and procedures in dental clinics for children and dental health education; in fact a veritable handbook on dental public health practice.

Dentistry is to-day a recognized factor in Public Health. This book provides a comprehensive account of this subject which is so prominent at the present time, and affords an opportunity to all those who are interested in any phase of dental public health, to become more familiar with the place of dentistry in the realm of public health service.

M.H.G.

**Diseases of the Soft Structures of the Teeth and Their Treatment—**

by Herman Prinz, A.M., D.D.S., M.D., Dr. Med. Dent. Second edition, thoroughly revised. Octavo, 500 pages, illustrated with 308 engravings. Cloth, \$6.50, net. Published 1937, by Lea & Febiger, Philadelphia.

Since publishing the first edition of this work numerous advances have been made in the field of oral pathology and therapeutics. The author has revised his work to bring it to date. Especially is this true in respect to dental pulp amputation and in the newer concept of the treatment of pyorrhea alveolaris (periodontoclasia). While the order of the subject matter remains unchanged, new illustrations have been added and the text has been extensively rewritten.

In the section on "Diseases of the Dental Pulp" the author discusses odontalgia, aetiology and classification of diseases of the dental

pulp, general principles of diagnosis, exposed healthy dental pulps, hyperemia, pulpitis in its various forms, pulpotomy, filling of root canals and accidents arising in the treatment of root canals. The section on "Diseases of the Pericementum" includes chapters on aetiology and classification of diseases of the pericementum, followed by chapters on pericementitis in its various forms.

The section on "Pyorrhea Alveolaris" is quite extensive. Chapters deal with the history, nomenclature, aetiology, pathology and bacteriology, symptomology, diagnosis, prognosis, and treatment of this common dental disease. The last chapter discusses local anaesthesia as applied to the treatment of diseases of the soft structures of the teeth. A list of therapeutic suggestions for treatment is appended.

Dr. Prinz is again to be congratulated on the excellence of this textbook for students and practitioners. It ranks well with his many other works.—*Kenneth M. Johnson, Winnipeg.*

**Accepted Dental Remedies, 1937 —**

Edited by Samuel M. Gordon, Ph.D., secretary of the Council on Dental Therapeutics. Printed by the American Dental Association, 212 East Superior St., Chicago, Illinois. Price \$1.00.

The first edition of Accepted Dental Remedies was the first attempt on the part of organized dentistry to set forth rational and unbiased information concerning the use of official drugs and listing acceptable non-official dental remedies. The first two editions were warmly received by teachers, dentists and manufacturers, as evidenced by the sale of about 11,000 copies in two years.

Accepted Dental Remedies is a list of official drugs, useful in dentistry, and non-official articles which have been declared acceptable to the Council. In addition, the book contains a therapeutic index, a list of weights and measures, a pharmaceutic index, a list of poisons and antidotes of interest to dentists, and a bibliographic index to the reports of the Council on unaccepted products, and the rules governing the Council in the consideration of products. The new feature which was introduced in the last edition, namely a list of

formulas and prescribing suggestions, has been revised. The material in this edition of the book has also been revised on the basis of the appearance of the latest edition of the Pharmacopoeia and the National Formulary. This formulary contains among other information, formulas for overcoming mouth odours, cavity rinsing and sterilization, pulp capping, cavity varnishes, mouth washes, topical anaesthetics, drugs for pre- and post-operative medication, and socket pastes. Material revisions have been made in the chapters on Atropine Preparations, Local Anaesthetics, Calcium Compounds, Epinephrine, Opium Derivatives, and the chapter on Cod Liver Oil and Related Substances. All vitamin A and D assays for this class of products are made according to the methods described in the U.S.P. XI. This will enable the practising dentist to tell at a glance the comparative potencies of the various brands of cod liver oil.

The progress that has been made in the consideration of dentifrices is illustrated by the type of information which the Council thinks of value in considering these products. The composition and the physical properties are given, also which of the many local anaes-

thetics are acceptable, their formulas being given. The intelligent use of the information and the formulas in the book will enable dentists to save many dollars, at the same time

extending their knowledge of this important phase of dentistry.

This is a book which should be in the library of every practising dentist. M. H. G.

## NEWS FROM THE PROVINCES

### NOVA SCOTIA:

#### Annual Meeting

The 1937 Annual Meeting of the Nova Scotia Dental Association was held in Halifax September 2-4, during beautiful weather. Dalhousie University Dental School, on invitation, arranged the program in the form of a Refresher Course presented by members of the Faculty. Additional to this was a practical case of immediate denture service carried on by Dr. Lowry, of Montreal.

Judging by the number registered—twenty-three per cent greater than any one of the ten previous years—and the sustained attendance at the classes, the course was a complete success. No entertainment of a social nature was provided with the exception of a dinner Health Meeting on the evening of September 2, and a mid-day luncheon with music on September 3, as it was felt by the committee that it would not be wise to spend in such a manner any portion of the short time set apart for intensive work.

On Thursday morning, immediately after registration, Dr. Lowry demonstrated his method of taking an impression for a full upper denture with the six anterior teeth still present. Following this came the business meeting of the Association. At 2.30 p.m. Dr. Lowry took the bite registration for his patient of the morning. Then came a symposium on Children's Dentistry with Dr. John Dobson first, on the subject of "Management and Treatment of Children." At the conclusion of the foregoing Dr. E. G. Young, professor of bio-chemistry in the medical school, lectured on "Diet," while Dean Woodbury ended the period with a talk on "Orthodontics."

Next morning (Friday) the total class was divided into two groups which alternated with Dr. G. R. Hennigar on "Exodontia," and Dr. A. W. Faulkner on "Fixed Bridgework." At 2.30 p.m., Friday, an amalgam symposium began with Dr. J. S. Bagnall giving a paper

on "Amalgam Metallurgy and Manufacture." Dr. W. H. H. Beckwith following with "Cavity Preparation for Amalgam." At 3.30 p.m. the class was again divided into its two groups, one of which remained with Dr. G. A. Chudleigh for the "Insertion of Amalgam," while the other attended a clinic given by Dr. W. G. Dawson on "Colloidal Impression Technique." The two groups were then alternated. At 5 p.m. Dr. Hennigar extracted the teeth remaining in the mouth of Dr. Lowry's patient, after which the denture was immediately inserted. It proved decidedly successful.

On Saturday morning one group attended Dr. S. G. Ritchie's lecture on "The Dynamics of Denture Construction and Analysis of Forces Present." For the other group there was a series of table clinics on "Treatment of Fractured Jaws" by Dr. J. S. Bagnall; "Restoration of Incisal Angles" by Dr. W. H. H. Beckwith; "Demonstration and Formula of (a) non-expanding plaster for casts and impressions, (b) dental uses of cellulose acetate, (c) dead-set investment," by Dr. C. B. Climo, and "Aesthetics" by Dr. W. C. Oxner. The groups interchanged for the second period. The session on Saturday afternoon was given over to two papers on Vincent's Infection, Dr. A. B. Haverstock treating the subject from the standpoint of "Bacteriology, Diagnosis, and Morbid Changes," while Dr. Karl F. Woodbury's paper dealt with "Case History, Treatment in different age groups, Surgery, Drugs, Hygiene, Complications, Materials Used and Methods of Application."

Although the course was an experimental one for both Association and Faculty, many nice things were said about it, and the experience gained will be helpful in any future effort that may be attempted. Although it was put on primarily to interest and refresh the minds of members of the Association throughout the Province, it was of great value to the

Faculty itself in that it gave each teacher an opportunity of seeing his colleague handle his subject, and its content. In furnishing up his material for the course valuable material was whipped into shape which will prove useful in the classroom. In attempting to enrich the members of the Association, the College enriched itself.

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### **Report of the Delegate of the Canadian Dental Association**

(Presented at the 47th Annual Convention of the Nova Scotia Dental Association, September 2, 1937.)

In October last, the Board of Delegates of the Canadian Dental Association met in Montreal under the chairmanship of Dr. G. L. Cameron, of Saskatchewan. As usual the program was an intensive one in the sense that a profoundly earnest effort was made to accomplish as much as feasible in the time available. All Provinces were represented at every meeting. The British Dental Association cabled fraternal greetings and best wishes for a successful meeting. One of the interesting items on the agenda was a report of Canada's delegation to the British Empire Dental Meeting in London two months previously, and the Federation Dentaire Internationale in Vienna which immediately followed it. The President of the Canadian Dental Association, Dr. G. L. Cameron, headed this delegation, and one of the members of the Board of Delegates speaking to this Report made the following remarks, "I had the pleasure of going to the British Meeting, and I think we were most fortunate in the man we had in the President's chair and representing us at both this meeting and the one in Vienna. The duties of Dr. Cameron were quite onerous at times. He had to make two, and sometimes three addresses a day, and he did this most acceptably. He covered the ground thoroughly from the Canadian Dental Association point of view. I would say this, that at the Empire banquet at Dorchester House, we had men from all the Colonies, and of the English-speaking addresses, Dr. Cameron made the most outstanding of any of them." The Report of the President contained three suggestions of considerable importance which have all been previously discussed

in Nova Scotia, and I think I am correct in adding, with approval. They were as follows:

- (1) Necessity for increased financial support.
- (2) Some central place to be selected as headquarters where the secretarial work and some of the Journal work could be united, and at least a part-time man placed in charge.
- (3) The possibility of the Association holding its own convention.

You will recollect discussing the first suggestion at your last meeting, as the result of which I introduced a resolution to the Montreal meeting as follows: "Resolved, that beginning January 1st, 1937, the annual dues of the Canadian Dental Association be \$2.00." An amendment was later moved by Dr. M. H. Garvin "That, in the opinion of the delegates here gathered, the dues to the Canadian Dental Association should be \$4.00 a year, and that the delegates be instructed to take the matter up with their respective Provinces, to that end." The discussion of this resolution and its amendment brought out some very interesting information, even if we cannot use the adjective "satisfactory" in connection with it. One of Ontario's delegates stated the Ontario Dental Association had informed him they would not pay more than they were now paying. Dr. Moore further intimated that the attitude in Ontario toward the National Body was much better now than it had been, and asked the other Provinces to be tolerant for the time being. One of Quebec's delegates pointed out that in 1934 their Province had passed a resolution to the effect that, if the Journal were published, the legal body would pay to the Canadian Dental Association \$1.00 per man for every dentist in good standing. One Province, through its delegate, announced it would be impossible for his Province to accept any motion raising the dues at the present time.

As a consequence of the views expressed above, and the necessity of having all Provinces take concerted action, no concrete proceeding was possible looking toward an improvement in the financial situation. The discussion itself, however, was valuable in its salutary effect. One astonishing fact learned by your delegate was that in one Province the amount of money received by the Canadian



Dental Association for yearly dues, bore no sort of proportion to the number of dentists enrolled on the annual register, although the number to whom the Journal is sent corresponds closely with the latter. In several of the Provinces a discrepancy is seen between the number for whom dues are paid and the Provincial Register.

In my opinion the Canadian Dental Association made a grave error during its reorganization in not confining its relationship to the legal body in each Province. Dr. Ritchie and I argued for this principle from the very beginning but were unsuccessful in our contentions. When I was at the head of the National Body I made an attempt to rectify the situation but was informed that if I were successful in having any resolution carried one of our large Provinces would withdraw from membership. It was represented to me that it were better to limp along for a time until we had secured strong moral support as a national organization than to risk disruption through precipitate action. I consequently withdrew my resolution, for I believe the Canadian Dental Association has justified itself and has done a great deal for dentistry from a national viewpoint. It is not, however, doing but a fraction of what it is capable of accomplishing had it the full moral and financial support of all the Provinces. In this respect I have always been proud of Nova Scotia. Our little Province may be small in size, but in vision it is not confined within its own borders.

Such in brief form is the chief problem with which the Canadian Dental Association is confronted. It is a delicate and difficult matter to deal with, but with tact and tolerance, patience and time it is hoped matters will improve.

In the meantime it is publishing a national journal that stands in the front rank although it is not adequately supported financially by the dental profession in Canada. It is carrying on worth-while activities through its committees on Dental Health, Education, Research, Legislation, etc., keeping in contact with national dental bodies of other countries, and fulfilling all those other functions for which it is constituted.

Respectfully submitted,

A. W. FAULKNER,  
*Delegate for Nova Scotia.*

## **ALBERTA:**

### **Edmonton Dental Society**

During the summer, The Edmonton Dental Society held two very successful golf meets, followed by dinner and cards.

The first was held August 18 at the Highlands Golf Course. Visitors this day were, Mr. H. P. Temple, of Ash-Temple Co., Dr. Ahrens, Taber, Alberta, and Dr. Kendall, Vegreville, Alberta.

The second was at the Mafair Golf and Country Club, on September 1, with Dr. Addinell, Ponoka, and Drs. Turner and Janzen, of Wetaskiwin, visiting.

These two meets were not sponsored as tournaments, but due to the enthusiasm evident, it is expected there will be regular golf afternoons next year with suitable prizes for low scores.

Dr. G. S. Mills, of Macleod, has taken up practice at Grande Prairie, Alberta.

## **SASKATCHEWAN:**

### **Resolution**

At a meeting of the Saskatoon Dental Society, held September 14, a resolution was passed making the Journal of the Canadian Dental Association its official organ.

## **MANITOBA:**

### **Winnipeg Dental Society**

The golf addicts, 58 in number, of the Winnipeg Society, realizing that winter weather and business would soon force them to either attend to business or go south with the other wild birds, wound up their summer's sporting activities with a dinner at the Elmhurst Golf Club on Monday, the 13th of September. The evening was enlivened with community singing led by the inimitable Garnet Leckie and the presentation of the trophies to the winners of the afternoon's finals. Another pleasing feature was a presentation to Mr. Dave Johnston, of Denco Western, who has been the very efficient chairman of the golf draws for several years. The

presentation was made on behalf of the Society by Dr. W. F. Taylor.

The cups in annual competition were won by the following players,

Ash Cup—Winner, Dr. Paul Hutzulak; runner-up, Mr. D. Johnston.

Temple-Pattison Cup—Winner, Dr. T. N. Belden; runner-up, Dr. C. O. Wood.

Denco Cup—Winner, Dr. W. J. S. Jackson; runner-up, Dr. M. E. Ritchie.

Howard Harris Cup—Winner, Dr. A. C. McInnes; runner-up, Dr. M. A. Deagle.

Low net prizes for the five months' play were:

May—Dr. A. C. McInnes, Dr. W. A. Miller, Dr. T. N. Belden and Mr. D. Johnston.

June—Mr. M. A. Deagle, Dr. M. E. Ritchie, Dr. D. A. McCarten and Dr. H. R. Stewart.

July—Dr. C. J. Bannerman, Dr. W. J. S. Jackson, Dr. C. O. Wood and Dr. P. J. Gallagher.

August—Dr. T. G. McCarthy, Dr. L. W. Caldbick, Dr. R. A. McGillivray and Dr. P. Hutzulak.

September—Dr. H. J. Lawrence, Dr. Kenneth M. Johnston, Dr. C. D. McLeod and Dr. B. L. Toombs.

## ONTARIO:

### Toronto Academy of Dentistry

Officers of this organization have given much thought to their program for 1937-38. During May of this year a questionnaire was prepared and mailed to all Academy members to ascertain what subjects were of most interest to the profession. The replies are tabulated as follows, those subjects receiving most votes coming first in order:

1. Full dentures.
2. Dentistry for children.
3. Partial dentures.
4. Preventive dentistry.
5. Radiography.
6. Gold inlays.
7. Patient education.
8. Oral surgery.
9. Periodontia.
10. Orthodontia.
11. Ceramics and conduction anaesthesia.

It is interesting to observe that "Dentistry for Children" received the second largest num-

ber of votes. This information is worthy of comment, when coupled with figures from a survey conducted in Toronto homes early this year (report published in September issue of this Journal), which indicated that practically 100% of parents answered "Yes" to the question, "Do you consider the care of the child's first teeth important?" There would seem to be an apparent suggestion that dental health education in schools, particularly among parents in such organizations as Home and School Clubs, together with specially prepared literature sent out by the Department of Public Health should be encouraged, also that the public in general are demanding more and better dentistry for children. If this thought be true in fact, what a splendid achievement!

The Academy "Bulletin" makes a further comment concerning suggestions sent in to the executive council relative to future programs. Quote, "Perhaps the outstanding result," referring to the questionnaire sent out to the profession, "was revealed in the answers to the question asking for any other suggestions than those enumerated on the questionnaire. There was a definite opinion expressed that future programs of the Academy should include subjects with less emphasis upon purely technical phases of practice. In order to clarify the meaning, some subjects suggested were—vitamin therapy, dental caries—new theories on cause and control, oral manifestation of disease, oral diagnosis, law for the dentist and calcium metabolism." This is surely a healthy situation, to find an increasing number of dentists recognizing the value of and asking for a discussion of problems of such timely interest.

The general program for this season follows:

The annual dinner meeting on October 26 will be addressed by Mr. Merle W. Thorpe, Editor and Publisher of "The Nation's Business," official organ of the United States Chamber of Commerce. His subject, "What is Ahead for Business and the Health Professions."

In November, Dr. Charles Tuller, of New Orleans, will address the societies of Toronto, Hamilton and London, respectively. His subject, "New Principles to Produce Full Lower Dentures With Greater Stability Than the Best Modern Upper."

On December 8, a full day and evening of

group clinics, table clinics, dental nurses' and assistants' demonstrations and manufacturers' exhibits. This item has always been popular and instead of devoting only an evening, the committee plan a full day as well.

In January, there will be a joint meeting with the fellows of the Academy of Medicine. The following is an excerpt from the Academy "Bulletin" setting forth the problems to be discussed on this occasion:

What effect does pregnancy have on the dental tissues, and what advice and care should be given to the expectant mother to protect her dental health and promote normal development of the teeth of her child? Are there changes in the care and diet of the mother after the birth of the baby and during lactation period?

What factors influence the growth, development and structure of the dental mechanism?

What bearing has development and structure on future susceptibility to dental disease?

What report should a dentist expect from a physician?

What report should a physician expect from a dentist?

What is the dentist's responsibility in regard to his patient's nutrition?

What dental conditions influence mental health?

What effect upon general health have dental and periodental lesions?

On February 9, Dr. John Coggin, of Detroit, Michigan, will discuss amalgam restorations.

On March 2, Dr. John Oppie McCall of the Guggenheim Clinic in New York city will present "The Modern Program for Prevention of Dental Disease."

On March 29, Dr. W. N. Miller, of Flint, Michigan, will present "The Psychological Approach to Dental Office Problems."

Dr. Harvey Reid and his supporting officers must be heartily commended for such a splendidly planned program. Members of the profession in or near Toronto are fortunate, indeed, to have the opportunity of hearing these outstanding essayists discuss problems of every day interest to every dentist.

#### **Windsor Dental Assistants**

The Windsor Dental Assistants held their first fall meeting, September 1. The evening

was devoted to business, tentative plans being made for the coming year, including the annual Christmas raffle.

A most interesting guest was Miss Esme Reeve who is visiting in Windsor from her home in the Jersey Islands, England. Miss Reeve, who was a former Windsor dental assistant, gave a short, enjoyable account of her trip.

Some of the papers from the last convention were read for the benefit of new members. Plans were made for a general drive, the objective being to obtain 100% attendance of all dental assistants of this district.

#### **Dental Clinics in Hamilton**

Decentralization of dental services of the Board of Health, planned since last December, when Dr. W. L. Whitelock was appointed director, has been effected and opening of public and separate schools in September found six clinics in operation.

#### **Appointments to the Faculty of Dentistry, University of Toronto**

The Board of Governors of the University of Toronto has announced the following appointments to the Faculty of Dentistry:

Dr. E. W. Paul, Professor of Dental Surgery, who has been a member of the staff for nearly thirty years, has now been appointed also Librarian in place of Dr. C. Angus Kennedy, who passed away in July.

Dr. Lee A. Kilburn, of Hamilton, has been appointed Associate Professor of Dental Praxis, and will lecture in Economics in place of Dr. R. Gordon McLean who has resigned and retired from practice. (Dr. McLean's address is: Elysee, Trinity Road, Jersey, Channel Islands, British Isles.)

Dr. S. S. Crouch, Professor of Dental Anatomy, has also been appointed Lecturer in Orthodontia.

Dr. J. Kreutzer, in addition to demonstrating in Operative Dentistry, has been appointed Associate in Preventive Dentistry.

The following new appointments have also been made: Dr. G. V. Fisk, Associate in Orthodontia; Dr. Frank Martin, Associate in Dentistry; Dr. R. L. Twible, Associate in Dentistry; Dr. G. W. Spinks, Hamilton, Associate in Dental Anatomy; Dr. W. D. Cavanagh, Lecturer in Dentistry.

## EMPIRE NEWS

### GREAT BRITAIN:

#### National Health Insurance

In the House of Commons, on July 8, 1937, Mr. Joel asked the Minister of Health the cost of providing dental benefit as a statutory benefit, and whether there are any approved societies which now supply it.

Sir K. Wood: The cost of providing dental benefit as a statutory benefit cannot be estimated with precision in the absence of reliable data regarding the number of insured persons who would apply for treatment. Such information, however, as is available, indicates that about 10 per cent would apply for treatment each year at an average cost of about £4 per case. On this basis the cost would be approximately £7,000,000 a year. Dental benefit is provided as an additional benefit by 5,000 approved societies and branches in England and Wales with a total membership of 11,800,000, representing 75 per cent of the insured population, and the expenditure on this benefit in 1936 was about £1,750,000.

Mr. Joel asked the Minister of Health how many persons insured for health under the State scheme have, within the past twelve months, not selected any panel doctor; how many have not needed the services of their panel doctor; and what is the average number of attendances of those who have utilized the services of their different panel doctors?

Sir K. Wood: The number of persons who have been insured for twelve months without

selecting an insurance doctor is not available, but the number of insured persons at any given time who have not selected a doctor, although entitled to do so, is about 495,000 in England and Wales. As to the second and third parts of the question, a recent sample investigation of the official records kept by doctors showed that 48 per cent of the persons who had been on doctors' lists throughout 1936 had not been seen in the year, and that the number of attendances, including home visits per patient seen during the year, was 7.1.—*British Dental Journal*, August 2, 1937.

#### Bad Teeth No Bar to R.A.F.

The Air Ministry has decided that bad teeth will not be considered a bar to enlistment in the R.A.F. An order just issued provides that an applicant who does not reach the dental standard required may be accepted if he fulfills all other requirements. His teeth will be brought up to standard at Government expense.

The R.A.F. dental standard means the possession of a certain minimum of sound teeth. Hitherto a man who lacked them could provide himself with dentures and then enlist, but many men could not afford to do this.

Flying Officer C. E. Reynolds, O.C. Yorkshire R.A.F. Recruiting Area, said yesterday: "During the last two years at least a quarter of my rejections were for dental causes. These men will now be invited by circular letter to try again."—*Morning Post*, August 14.

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## GENERAL NEWS

### Dean of N.Y.U. Dental College Sees New Problems in Training Older Students

Dr. Allen T. Newman, dean of the New York University College of Dentistry, today called attention to a curious dilemma facing the dental educators of the nation.

In his annual report to Chancellor Harry Woodburn Chase, Dr. Newman said that while the professional schools were gradually raising their formal entrance requirements they were gaining maturity at the loss of manual flexibility in the students.

Dean Newman said that the minimum requirements of most professional schools was now two years of college work but the trend was toward four years.

"Extensive college preparation is presumably highly desirable, but may prove to be a not unmixed blessing," the Dean said. "The additional time spent in academic preparation means that the student comes to us for digital training just that much later in life, and hence, muscular co-ordination and digital skill is more difficult to develop.



"The College is now making a study of this subject in an effort to determine to just what extent those two years retard the speed and ease of accomplishment of the necessary digital skill."

Although the minimum requirement of the N.Y.U. dental college is only two years of pre-professional training, 56 per cent of the entering students last year had four years of college work, while only 17 had the minimum of two years. This year the percentage of four-year men will be considerably higher, Dr. Newman said, because of the increasing numbers of freshmen applying for admission.

Dean Newman also reported that a project had been undertaken in the College last year to improve the quality of the teaching of dentistry by offering instruction in the fundamentals of pedagogy to the dental instructors. The course was organized in collaboration with the University's School of Education and had an enrolment of 42 dentists. This year a study will be made to evaluate the results of the project, after which the work will be continued in whatever modified form may be justified.

With the rising entrance requirements and improved dental instruction there is also a growing demand for post-graduate instruction in which the College is greatly hampered by lack of adequate building space and facilities, Dean Newman said.

Local dental societies, realizing the need for post-graduate study and also the lack of facilities at N.Y.U., have called upon the instructors of the College to teach graduate groups off-campus.

"The need for post-graduate training is acute and the demand large," Dr. Newman said. "While it would seem that our own teachers were working against the development of our graduate program, I believe the dental societies would gladly relinquish this phase of their activities to the dental colleges of the city if they had the facilities to carry it on."

#### Brazil's Coffee Problems

The Brazilian coffee industry has reached the most critical period in its history. Whatever policy is ultimately adopted, the fact remains that during the past seven years Brazil will have incinerated the enormous total of

60,000,000 bags of coffee.

In other words, coffee has been destroyed at the average rate of one bag every four seconds, night and day, during these seven years, in order to reduce the capacity for over-production.

#### Medical Economics

In the report of the Committee on Economics, as presented at the Victoria meeting in 1936, it was recommended that the Association appoint a full time medical man in charge of medical economics, whose duty it would be to secure up-to-date information on health insurance, and be prepared to assist the Provincial Medical Association in all such studies. The General Council, while realizing the need for this action, was unable to face the expenditure that would be required and, therefore, amended the report in such a way as merely to express an opinion in favor of such a measure. With this as a guide, the Executive Committee last October asked the General Secretary to devote a portion of his time to secretarial duties connected with the problem of medical economics. In order to secure authentic information on the subject, he was authorized to visit the British Isles, Denmark, Belgium, Germany and France, to make a study of the actual operation of health insurance in those countries.

It is the opinion of your Executive Committee that, by this intensive study, a vast amount of information will be obtained as to the advantages and defects of the different systems in operation, which will be of value to the Canadian Medical Association in its endeavour to assist the various provincial associations in effecting a solution of the economic problem of medical service. At time of going to press, the General Secretary is still in England engaged in this special work.—*Excerpt from the Report of the Executive Committee of the Canadian Medical Association, Ottawa, June 1937, per The Canadian Medical Association Journal.*

Examination of 570,000 school children in Chicago showed that more than 11,000, or approximately 2 per cent, were suffering from heart disease. Among the causes cited, defective teeth were listed as most important."—*Dr. Arnold H. Kogle.*

## IN MEMORIAM

**Jacob Neelands**—of Lindsay, Ontario, aged 99, died September 19. He was the oldest dentist in Canada. Dr. Neelands was born in Brampton, Ontario, and started to practice in Lindsay a year before the United States civil war and only retired from practice eight years ago. He was the first dentist in Canada to use Nitrous Oxide gas as an anaesthetic for extracting teeth. At first he made his own gas.

Many of the prominent dentists of Canada have studied their professions under Dr. Neelands. Dr. G. F. Bush, of Winnipeg, now in his 52nd year of active practice, as a student studied under the late Dr. J. L. Benson, while at an earlier date Dr. Benson was a student under the tutelage of Dr. Neelands.

One of the grand old men in dentistry has passed on.

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**Robert A. Harvie**—of Winnipeg, Manitoba, aged 80, died suddenly at his office September 23.

Dr. Harvie was one of the first dentists to practice in Winnipeg, coming west from Orillia in 1878. He was one of the first members of Knox United Church. He was a member of the Board of Management until 1915 and since that time has been a member of the Trustee Board.

Curling was Dr. Harvie's favourite sport. He was one of the best-known members of the Granite Club and a life member of the

Manitoba Curling Association. He was also an honorary life member of the Manitoba Dental Association.

Dr. Harvie is survived by one daughter, four sons and a brother.

•

**William Downer Campbell** — of Lethbridge, Alberta, aged 50, died suddenly of heart failure, August 19. He was born in Wabasha, Minn., U.S.A. and had been in Canada 23 years, the last 19 of which were in the Lethbridge district.

Dr. Campbell was an enthusiastic hunter and took an active interest in the Lethbridge Fish and Game Association.

He is survived by his widow, one brother and one sister.

•

**James A. Brett**—of Toronto, Ontario, died September 2, following a year's illness. He graduated from the R.C.D.S. and the University of Toronto in 1902. Dr. Brett was prominent in Orange circles, being a past-master of McKinley Lodge. He was a member of the Alpha Masonic Lodge, Centennial United Church and the Eastern Star. He is survived by his widow, one daughter, two sisters and five brothers.

•

**F. E. Curran**—of Deseronto, Ontario, died August 28. He practised dentistry in Deseronto a great many years and was well known throughout the district.

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## *Conventions*

THIRTEENTH<sup>o</sup> GREATER NEW YORK MEETING, HOTEL PENNSYLVANIA,  
NEW YORK CITY, DECEMBER 6-10.

AMERICAN DENTAL SOCIETY OF EUROPE, STOCKHOLM, SWEDEN, AUGUST 1-3, 1938.  
K. C. CAMPBELL, SEC'Y, 88 PORTLAND PLACE, LONDON, W.1.

AMERICAN DENTAL ASSOCIATION, ST. LOUIS, MO., OCTOBER 24-28, 1938.

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## Eléments d'Anatomie Dentaire Philosophique

par GASTON GUERARD

Docteur ès-Sciences Naturelles U.P.

Professeur d'Anatomie Dentaire Humaine et Comparée à l'Ecole Odontotechnique de Paris.  
Vice-Président de la Section d'Anatomie au VIII Congrès Dentaire International.

(Extrait de la "Revue Odontologique").

(suite)

AVEC l'âge tertiaire nous pénétrons à présent dans un monde transformé. Une flore et une faune nouvelle vont succéder aux jours monstrueux et inintelligibles du secondaire, des complications organiques vont se manifester, en effet, caractérisant cette fois un véritable progrès physiologique et des êtres jusqu'alors atrophés et timides vont se multiplier au point de posséder à leur tour la maîtrise du monde. L'Eocène apparaît enfin comme l'aurore des jours nouveaux qui seront l'apogée du monde organique!

Des formes inconnues vont donc apparaître et nous les verrons se présenter aussi soudainement que les types caractéristiques des périodes précédentes, entourées d'un même mystère quant à leur origine. L'évolution des mammifères est néanmoins la mieux connue de toute la paléontologie, et l'on admet que presque tous les ordres actuels se rattachent à un petit nombre de types apparus dans l'Eocène inférieur. En outre les mammifères du secondaire étaient tous *Didelphes* (aplacentaires: marsupiaux), ceux du

tertiaire, à part l'Australie, seront au contraire placentaires et les principaux ordres vont les partager en: *Insectivores*, *Carnivores*, *Cétacés*, *Edentés*, *Rongeurs*, *Ongulés* et *Primates*. Tout de suite nous nous rendons compte que cette classification des paléo-mammalogistes est basée sur l'étude comparative des dents, et nous voyons ces organes à nouveau fournir une documentation précieuse, chaque fois que se montre un groupe animal jusqu'alors inconnu, une étape nouvelle dans l'histoire de la terre.

Le Pleistocène qui ouvre le quaternaire se distingue peu de la fin du Tertiaire et sans l'apparition de l'homme il se confondrait avec cette dernière époque. C'est l'âge des espèces émigrées ou étientes, c'est la longue suite des jours de neiges et de pluies et l'instant du déluge, des alluvions où tant de fossiles seront ensevelis. Trois époques vont partager cette période, celles de l'*Hippopotame*, du *Mammoth* et du *Renne*.

Parvenus enfin à l'*Holocène*, le plus récent des temps géologiques, toutes les espèces actuelles sont formées.

### 3° Origine des êtres vivants

De tout temps le problème de l'origine des êtres vivants s'est posé à l'esprit des hommes. Le philosophe et le naturaliste se rencontrent ou se heurtent depuis des siècles pour connaître si les espèces anciennes et actuelles descendent par voie de transformations successives de trois ou quatre types originels ou mieux d'un archétype primitif *unique*, ou bien au contraire si ces espèces sont apparues *isolément*, n'offrant ainsi que des ressemblances et non une réelle parenté physiologique.

On comprendra que pour un aussi formidable débat dussent concourir toutes les Sciences susceptibles d'éclairer les ténèbres qui nous entourent, or, parmi les témoins des mondes disparus, la dent

n'occupe-t-elle pas le premier rang? Toujours présente à chaque étape nouvelle dans l'histoire généalogique des êtres vivants, souvent même unique vestige du passage de ces derniers sur le globe, ne doit-elle pas enfin en jalonnant les profondeurs de la Terre nous montrer la première chemin parcouru? C'est ce que nous chercherons dans la second partie de notre exposé, mais auparavant il nous faut brièvement désigner les théories entre lesquelles nous aurons à choisir à la fin de cette étude, et après avoir suivi la Dent, tout au long des périodes géologiques.

#### a) Théorie des transformations successives:

Le mot *Transformisme* que nous allons employer pour parler le langage courant des auteurs, est pour la plupart de ces derniers synonyme d'*Evolution* ou *Développement*, mais ces termes ne l'oublions pas, ont chacun des significations particulières, et comme je ne peux m'expliquer davantage à cette place, je signale tout au moins cette confusion journallement commise par les écrivains, et les graves équivoques qui en sont la conséquence.

Le *Transformisme* ou *Darwinisme* (du nom du savant anglais dont les travaux ont formé une véritable doctrine) a donc conduit ses partisans à admettre qu'une chaîne ininterrompue réunit toutes les espèces animales et végétales depuis l'être monocellulaire initial jusqu'à l'homme (le dernier venu dans la série paléontologique), en passant dans les grandes lignes, par les Invertébrés les plus inférieurs, par les Vers, les Mollusques, les Crustacés qui auraient donné les Poissons, lesquels se transformant en Batraciens et Reptiles devenaient par ces derniers la souche des Oiseaux et des Mammifères.

#### b) Théorie des Créations séparées:

Pour celle-ci il n'y a pas liaison héréditaire entre les variétés animales, toutes



sont nées spontanément et isolément, et l'idée d'une liaison ancestrale est due à l'illusion créée par les ressemblances, toutes les formes s'étant, en effet perpétuées depuis l'origine des choses. C'est la théorie de la *fixité des espèces*.

Entre ces deux thèses contraires des conceptions voisines ont trouvé place, il serait trop long de les énumérer ici, voyons seulement très brièvement et en ce qui nous concerne, quelques-uns des principaux faits auxquels nous devons l'éternelle controverse entre *transformistes* et *fixistes*.

Dans ce but, et pour ne faire preuve vis-à-vis du lecteur "d'aucune tendance personnelle *avant les recherches qui vont suivre et qui nous guideront plus tard dans nos conclusions*, je me contenterai de citer pour l'instant et à titre documentaire les opinions de naturalistes de doctrine opposée. La thèse transformiste étant soutenue en la circonstance par le savant paléontologiste *Félix Bernard*, et la conception des créations isolées défendue par l'illustre Créateur de l'Anatomie comparée et de Paléontologie: *Georges Cuvier*.

"On sait, dit Bernard, quelle importance a prise de nos jours dans l'ensemble des sciences naturelles la *théorie de l'Évolution*. Quelques rares savants, que l'on doit à la vérité compter parmi les plus illustres, admettent encore que les formes vivantes sont *immuables* et ne peuvent dans aucun cas se modifier et donner naissance les unes aux autres. Mais les naturalistes, en immense majorité, se sont ralliés aux idées transformistes. S'il est vrai que les formes animales ou végétales dérivent les unes des autres, s'il y a entre les espèces, les genres et les grands groupes de véritables liens de parenté, la Paléontologie doit nous donner les meilleures preuves à l'appui de cette filiation . . . Peut-on espérer trouver dans

cette science des arguments nouveaux en faveur de la doctrine transformiste? Existe-t-il parmi les fossiles des termes de passage qui facilitent l'établissement des arbres généalogiques? Retrouve-t-on enfin dans les types anciens les ancêtres de ces formes dont l'origine est encore problématique? Tels sont actuellement les importants problèmes qui préoccupent tous les naturalistes, sans exception, qui s'adonnent aux études paléontologiques . . ." et l'auteur continue plus loin; ". . . malgré les lacunes qu'elle laisse subsister, la Paléontologie a mis en lumière des solutions presque inattendues pour les problèmes déjà pendants, et l'on peut affirmer, sans crainte d'être contredit par aucun des savants qui s'occupent de cette science, *qu'elle apporte chaque jour un éclatant témoignage à la théorie de l'évolution*" (1).

Pour *Cuvier* au contraire la Paléontologie nous montre un monde animal distribué d'après des organisations diverses et qui ne changent pas, et il n'est pas possible je crois de mieux nous représenter cette conception, qu'en reproduisant le bel exposé du grand paléontologiste sur les Poissons (2): "Les poissons, écrit Cuvier, forment une classe d'animaux distincte de toutes les autres et destinée en totalité par sa conformation à vivre, à se mouvoir, à exercer les actes essentiels de sa nature, dans l'élément aqueux. C'est là leur place dans la création. Ils y ont été dès leur origine, ils y resteront jusqu'à la destruction de l'ordre actuel des choses, et ce n'est que par de vaines spéculations métaphysiques, ou par des rapprochements très superficiels que l'on a voulu considérer leur classe comme un développement, un perfectionnement, un anoblissement de celle des Mollusques, ou comme une première ébauche, comme un état de fœtus des autres classes des Vertébrés" . . . et

(1) C'est moi qui souligne.

(2) CUVIER (G.) et VALENCIENNES.—*Hist. nat. des Poissons*, 1828, t. I, p. 401.

l'auteur conclut ensuite sur ce raisonnement que la Nature n'ayant à sa disposition qu'un petit nombre d'organes, ceux-ci devaient fatalement se ressembler. "Si donc il y a des ressemblances, dil-il, entre les organes des Poissons et ceux des autres classes, ce n'est qu'autant qu'il y en a entre leurs fonctions. . . concluons surtout qu'ils ne sont ni des anneaux de cette chaîne imaginaire des formes successives, dont aucune n'aurait pu servir de germes aux autres, puisque aucune n'aurait pu subsister isolément. . . . mais qu'ils appartiennent à cette chaîne réelle des êtres coexistants, et qui, par leur action mutuelle, maintiennent l'ordre et l'harmonie de l'univers, chaîne dont aucune parcelle n'a pu exister toutes les autres, et dont les replis, sans cesse rapprochés ou écartés, embrassent le globe dans leurs contours".

Voici donc, au point de vue qui nous touche, présenté sous ses deux aspects le problème de l'origine des êtres vivants, nous avons vu d'autre part les deux doctrines opposées étroitement liées à la Paléontologie, et cette dernière enfin nous désigne la *Dent* comme l'un de ses plus fidèles et de plus sûrs témoignages. Il nous appartient donc à présent de *comparer l'évolution fonctionnelle de cet organe avec son évolution paléontologique*, le résultat obtenu étant appelé à

nous montrer à laquelle des deux théories ci-dessus l'*Odontologie* doit se rallier.

J'admets qu'un organe nu ne puisse trancher sans recours et solutionner sans erreur possible un pareil débat, mais il ne nous faut pas oublier que la controverse dont il s'agit est encore loin d'aboutir, adversaires et partisans du transformisme sont toujours sur leurs positions, par conséquent et en ce qui nous concerne, nous ne saurions *a priori*, considérer comme une Loi intangible ou prendre pour fondement inébranlable l'enseignement intégral de l'une ou l'autre doctrine. Et j'ajouterai au surplus que les problèmes du genre de celui qui nous occupe ne sont pas subordonnés à la négation ou à l'affirmation d'un principe, mais qu'ils sont au contraire les conditions et les témoins nécessaires à l'élaboration des théories. Or, dans cet ordre d'idées l'*Anatomie dentaire philosophique* se présente à nous avec une importance d'autant plus grande que la *Dent* à travers les étapes phylétiques est bien souvent, répétons-le, le *seul document, l'unique preuve objective* sur quoi sont discutées les hypothèses relatives à la succession des espèces. Il est donc enfin de notre devoir de nous faire entendre dans un débat qui nous touche de si près et qui aussi fréquemment est porté sur notre propre domaine.

## Deuxieme Partie

*Origine et Evolution Paléontologique des Dentures  
Etude comparée des dents fossiles I.—Ere primaire.*

**L**A PREMIERE DENT apparue nous révèle en même temps la naissance au fond des mers du *premier vertébré*. C'est une dent isolée, unique témoin d'espèces éteintes, les autres parties du corps n'ayant laissé aucun reste, aucune trace.

Spontanément adaptée, nous ne con-

naissions donc à cette formation nouvelle, nulle autre origine que celle du porteur, puisque les ancêtres les plus archaïques des premiers Poissons n'ont pas de mâchoires (1) et que nous ne saurions, en outre, assimiler à des dents les pièces chitineuses ou calcaires qui tiennent lieu

(1) *Palaeospondylus*, type le plus archaïque des Vertébrés fossiles est dépourvu de mâchoires.

de ces organes chez les Invertébrés.

C'est en effet dans l'*Ordovicien* (début de l'époque *Silurienne*) que nous trouvons la première dent véritable et de structure caractéristique. (A côté d'elle et dans les mêmes couches, des organes identiques ont été pris pour des dents de Poisson, mais Rohon a montré qu'il s'agissait d'armatures buccales d'Annélides, denticules réguliers et espacés, mais n'ayant pas la structure d'une dent vraie). Rares d'abord, au *Silurien supérieur*, ces restes deviennent abondants, particulièrement en Galicie, dans les provinces baltiques et en Pensylvanie, ils ont appartenu à des Ganoïdes primitifs ou à Chondroptérygiens <sup>(1)</sup>, animaux dont parfois la peau chagrinée a fourni quelques empreintes, mais dont le squelette interne complètement cartilagineux n'a laissé aucune trace.

Aussitôt apparue la dent se montre donc comme le seul moyen d'investigation capable de nous renseigner sur la filiation des premiers vertébrés, c'est-à-dire des premiers Poissons; or, notons-le bien, nous avons affaire ici à des organes d'emblée définitivement constitués et parfaitement adaptés dès l'origine pour la préhension, le broiement, l'attaque et la défense, en un mot nous nous trouvons en face de formations spontanées comme est subite elle-même l'apparition de la première faune ichthyenne.

A la période *Dévonienne*, les dents fossiles vont devenir plus nombreuses encore, associées à d'autres débris, elles vont nous permettre avec ces derniers, une connaissance plus approfondie des associations biologiques du *Primaire*, car cette fois, nos découvertes appartiendront aussi bien au milieu marin qu'au milieu continental. Immédiatement, un fait va nous intéresser: hormis les Poissons osseux (ou téléostéens) <sup>(2)</sup>, toutes les classes de Poissons sont déjà représentées

et possèdent dès maintenant les dentures caractéristiques qui resteront appropriées à chacune d'elles.

A l'anthracolithique (*Carbonifère* et *Permien*), une exubérante végétation tropicale va devenir favorable à l'alimentation des Batraciens représentés par des genres nombreux et que l'on a groupés sous le nom de Stégocéphales. A leur tour les Reptiles vont apparaître et nous allons avec ces faunes nouvelles, découvrir des organes dentaires d'une telle complication et d'un tel perfectionnement, que les représentants actuels de certaines espèces non disparues sont moins bien pourvus que les formes primitives. Mieux que cela, des Reptiles parmi les plus archaïques ont déjà une dentition différenciée en incisives, canines et molaires, alors que ce perfectionnement ne s'étendra pas aux espèces géantes qui vont suivre, quand le règne des Reptiles sera à son apogée. Nous allons donc assister à l'origine, à une véritable *Discontinuité* dans l'évolution, et nous constaterons en même temps que la dent a acquis de suite un haut degré d'adaptation parfaite, alors que rien n'annonce encore l'apparition des Vertébrés supérieurs: Oiseaux et Mammifères.

Quelques exemples recueillis parmi les êtres vivants des âges primaires, vont enfin appuyer ce que nous venons d'apprendre sur les modalités de l'évolution dentaire au cours des premiers temps géologiques. J'ajouterai cependant que les séries de documents que nous allons passer en revue, (ainsi que ceux qui suivront au cours de notre étude), ne sont ni le résultat du hasard, ni celui d'une sélection volontairement orientée; dans le premier cas, en effet, nos conclusions pourraient à juste titre être regardées comme peu sûres, et dans le second il est évident que la multiplicité et la diversité des organes qui nous intéressent se pré-

<sup>(1)</sup> Groupes de Poissons cartilagineux.

<sup>(2)</sup> Ce sont eux qui forment la majorité des Poissons actuels.



teraient trop facilement à des sériations capables de répondre aux systèmes les plus opposés. Nous reproduirons donc, au contraire les caractères essentiels et spécifiques des dentures en suivant la succession paléontologique des grands groupes, et chaque fois qu'un type nouveau marquera une étape évolutive. De la sorte, nous serons en mesure d'accompagner la dent à travers son histoire morphologique, et les considérations philosophiques que nous pourrions tirer d'un tel examen ne sauraient à coup sûr être entachées de graves erreurs.

Ainsi que nous le savons déjà, la première dent vraie est donc une dent de Poisson, elle est silurienne et nous ne connaissons pas son porteur. L'étude comparée de cet organe nous apprend néanmoins qu'il s'agit d'un Ganoïde primitif ou d'un Chondroptérygien. (Les Poissons cuirassés apparus en même temps ont eux aussi, laissé quelques dents). Les fossiles les plus intéressants et à porteurs connus, sont ceux des formes inférieures et les plus anciennes, ils appartiennent, en effet aux Cestracionidés dont les dents se trouvent à partir du Silurien. Or, ces organes tout à fait primitifs sont déjà dissemblables chez un même individu; nombreux et serrés, disposés sur plusieurs rangs, ils sont aigus en avant de la mâchoire, et deviennent progressivement larges et bombés en arrière.

Ainsi donc, et contrairement à l'enseignement classique, nous rencontrons dès les premières dentures de vertébrés, d'emblée et d'un seul coup des mâchoires pourvues pour la préhension et le broiement des aliments, en un mot des dents déjà différenciées; chez Cestracion, les dents les plus spécialisées s'allongent en forme de coussin et se creusent de sillons longitudinaux, ce sont de véritables molaires, et nous ne sommes qu'au début des temps primaires, lorsque s'ébauchent les premiers Vertébrés!

L'époque Dévonienne est le règne des Ganoïdes, et nous rencontrons cette fois des spécialisations nombreuses, bien caractérisées et qui dès les débuts de la faune ichthyenne nous éloignent de la prétendue homodontie primitive des classiques. Les *Dinichthyidés* par exemple, sont tout à fait remarquables par leurs mâchoires pourvues d'une paire de dents crochues à leur extrémité et hérissées de pointes sur le reste de leur surface (*Dinichtys* du Dévonien d'Amérique). Par contre, nous trouvons en même temps et dans le même terrain, les dents petites et rudimentaires d'un type synthétique curieux, les *Acanthodidés*.

Déjà également, nous allons observer une complication histologique importante, chez les *Holoptychiidés*, en effet, les dents coniques présentent souvent en section des replis labyrinthiformes de dentine. Les *Dipneustes* (1), groupe de longue durée et dont il existe encore des représentants, font ici leur apparition et il est à noter que les dents de ces vertébrés sont larges et très peu nombreuses, chaque mâchoire porte une seule paire de dents volumineuses et lobées, d'autres dents plus petites se trouvent sur le vomer. Avec ce groupe archaïque, copieusement représenté d'ailleurs, comme nous voici dès l'origine bien loin de la définition d'une denture originelle à organes coniques et disséminés partout dans la cavité buccale et que d'autres particularités encore nous éloignent dès les débuts d'une évolution héréditaire, les *Prosélaciens* n'ont-ils pas une bouche terminale alors que les *Sélaciens* nous montrent cette imperfection d'une bouche ventrale? . . . Nous verrons d'ailleurs, ajoutons-le, s'accroître davantage encore cette variabilité et cette inconstance dans l'évolution morphologique des dentures au fur et à mesure que nous suivrons leur évolution paléontologique.

(1) Respiration branchiale et pulmonaire.



Dans le *Carbonifère* et le *Permien*, nous allons en effet, rencontrer parfois des degrés de perfectionnement et de complication plus élevés dans les formes primitives que chez celles qui les ont continuées. Du côté des Poissons: aux formes précédentes s'ajoutent des dentures à nouveau des plus variables, telles les dents aplaties et rectangulaires des *Psammodontidés* ou les dents aiguës et en poinçons des *Stylodontiolés*. Chez les *Lépidostéoides*, les dents présentent même de telles variations qu'elles servent à délimiter les familles. . . Notons enfin plus particulièrement ce fait que certains Poissons, les *Pleuracanthidés*, limités aux époques houillères et Permienne, (alors que des formes nombreuses et bien spécialisées existent depuis longtemps), s'offrent tardivement à nous comme les plus inférieurs en organisation de tous les Poissons fossiles. Et ainsi de suite nous continuons à constater une incessante variabilité dans l'évolution animale et organique.

A côté de ces Poissons archaïques vont se montrer aux époques où nous voici parvenus, l'un après l'autre, le premier *Batracien* et le premier *Reptile*. Les dentures de ces formes primitives vont-elles nous montrer cette fois une certaine continuité dans leur développement et des affinités dans leurs apparitions successives? C'est ce que nous allons constater immédiatement grâce à des formes bien caractérisées et d'emblée morphologiquement établies.

Les nombreux genres de *Batraciens* que l'on trouve côte à côte dans le terrain *houiller* appartiennent à tous les groupes de *Stégocéphales*, mais comment imaginer des transitions entre les dentures de ces formes archaïques si nous examinons les fossiles fournis par un même gisement? Ce sont d'abord les *Branchiosaures* avec leurs arcs branchiaux pourvus de dents à la manière des Poissons, dents simples et creuses et que nous classerons parmi les

plus inférieures avec celles de *Aistopoaes* également simples et à grandes cavités. Mais à côté, voici les dents si compliquées déjà des *Stéréospondyles*; chez eux, les côtes rayonnantes qui existent à l'intérieur de la cavité pulpaire s'allongent et se replient pour former des lames méandrinoides très nombreuses. Ces plissements atteindront d'ailleurs chez les *Labyrinthodontes* une complication extrême, et même nous observons chez *Trématosaures* des spécialisations et des différenciations intéressantes, la bouche porte deux sortes de dents: celles des maxillaires forment une rangée externe de petites dents, tandis que sur le vomer et les palatins, ces organes sont plus forts, surtout en avant; et sur la mâchoire inférieure sont en avant deux forts crochets qui viennent se loger dans les cavités de la mâchoire supérieure.

Ceci dit, nous allons constater à présent une grande lacune dans l'histoire des *Batraciens* car les *Stégocéphales* vont s'éteindre après le *Trias* et il faudra aller jusqu'au *Crétacé inférieur* pour rencontrer un autre *Batracien*, le premier *Urodèle*, ensuite au *Tertiaire* apparaîtront des formes dont un grand nombre vivent actuellement. Or, les dernières de ces dentures, remarquons-le, ont perdu les complications des espèces primitives, nous montrant une fois de plus, l'état simple, la forme conique dite originelle indistinctement apparue dans un même groupe, ou dans des groupes différents et aux époques les plus éloignées.

Des *Batraciens* si nous passons maintenant aux *Reptiles* du *Primaire*, la variabilité et la discontinuité dans l'évolution des dentures va se faire encore plus saisissante, la forme la plus ancienne va nous montrer en effet une denture à tel point spécialisée qu'on a proposé les porteurs comme pouvant être les ancêtres de tous les *Mammifères*. Ces animaux sont les *Théromorphes*, les plus anciens parmi eux présentent bien encore des dents

toutes semblables, mais avec toutefois ce caractère particulier d'être logées dans des alvéoles, ce sont des *Cotylosauriens* rappelant d'ailleurs les Batraciens Stégocéphales; et, comme ce mode d'implantation perfectionné va disparaître chez les descendants de ces espèces primitives, voici encore, ajoutons-le, en défaut l'évolution acceptée par les auteurs. Mais il y a mieux, si l'on s'adresse aux autres Théromorphes, les dents, en effet, commencent à se différencier, très nettement; chez *Procolophon*, ce sont d'abord les dents postérieures et chez les *Thériodontes* enfin, la dentition rappelle tout à fait celle des Mammifères carnivores; de chaque côté, on remarque un fort crochet séparant les dents antérieures aiguës mais simples, des dents postérieures souvent pourvues de plusieurs pointes latérales ou *cuspidés*, tout cela offrant l'aspect d'incisives, de canines et molaires. Et nous sommes dans l'Ere Primaire avec les Premiers Reptiles, alors que ceux qui viendront ensuite, fussent-ils les plus puissants d'entre les carnivores, ne posséderont plus ce caractère de perfectionnement; il nous faudra pour cela, nous le savons, laisser passer des millénaires et attendre la venue du premier mammifère mésozoïque....

Avant de quitter les temps Primaires et de pénétrer dans les âges tourmentés du Secondaire, quelles conclusions allons nous tirer des faits qui précèdent, sinon que des organes si différents dès leur apparition ne possèdent évidemment qu'une ressemblance nominale? Sans doute occupent-ils une même place dans l'organisme, mais en dehors de ce rapprochement que de dissemblances déjà dans le nombre, la forme, le volume, la position exacte, les rapports des parties entre elles, etc. . . ! Ne voyons-nous pas dès à présent les dentures bien loin de se montrer comme un héritage ancestral ne présenter leur signification véritable

qu'en considération du porteur? Nous avons pu, en un mot constater des homologies entre les dentures des premiers Vertébrés parce que les systèmes dentaires de chacun d'eux sont construits suivant une même loi et avec les mêmes matériaux en vue d'une fonction identique, mais nous avons observé aussi que les éléments constituants subissaient toujours chez les différents types des complications, des réductions ou des changements nécessités par la place occupée à l'orifice des voies digestives et par la spécialisation fonctionnelle. Dès l'origine, enfin, les homologies, les ressemblances ne sont pas dues, comme nous venons de le voir, à des transformations graduelles de pièces initiales simples, mais elles nous montrent dans une même communauté biologique, une suite d'adaptations nouvelles à des organisations nouvelles, ce qui explique l'inconstance morphologique des organes dentaires au fur et à mesure de leur évolution paléontologique chez les Premiers Vertébrés. Par contre, nous allons voir les mêmes organes une fois réalisés dans un groupe ne plus subir que des modifications accessoires à travers les longues périodes géologiques et se transmettre parfois indemnes depuis les premiers âges du Monde jusqu'à nos jours.

## II. Ere secondaire

Les milieux biologiques propres aux temps secondaires vont nous procurer cette fois une ample moisson de formes nouvelles, plusieurs espèces vont disparaître, d'autres se continuer, mais nous serons surtout frappés par l'apparition subite et le développement extraordinaire de certaines classes d'animaux qui font comme une coupure entre le Permien et le Trias. Les dentures de ces êtres nouveaux vont-elles nous montrer entre elles des rapprochements et des liaisons probables? en un mot les dents appartenant à la faune des temps secondaires semblent-elles dériver de formes

anciennes et s'apparenter en outre aux formes contemporaines de leur époque? Une telle conception serait le plus souvent purement imaginative, les faits vont le démontrer.

Du côté des Poissons, les *Téléostéens* (ou Poissons osseux) font leur apparition et paraissent s'enchaîner visiblement avec les *Ganoïdes* paléozoïques. Il est d'ailleurs intéressant de noter ici la persistance d'un grand nombre de types jusqu'à l'époque actuelle, aussi le système dentaire de ces êtres, ajoutons-le, s'est-il peu modifié, comme si chaque forme une fois fixée dans un groupe ne devait plus transformer sa structure que dans les détails.

Voyons maintenant ce que seront les dentures des espèces nouvelles, *reptiles*, *oiseaux*, et *mammifères*.

*Reptiles*.—Chez les *Ptérosauriens*, reptiles volant, nous rencontrons des espèces *édentées* et d'autres au contraire munies de forts crochets espacés, *insérées dans des alvéoles*, c'est-à-dire un perfectionnement à côté de l'absence même d'organes.

Les *Dinosauriens*, ces monstres qui caractérisent la période secondaire, datent du *Trias*. Les uns atteignent vingt-cinq mètres et n'offrent qu'une denture médiocre, dents cylindriques, tranchantes, ne se trouvant qu'à la partie antérieure des mâchoires et pouvant se remplacer plusieurs fois de suite. D'autres, au contraire, montrent des dents redoutables, *tranchantes* et *denticulées*. Certains possèdent des dents à deux racines, implantées dans des alvéoles alors que la forme la plus simple s'observe à leurs côtés.

Les *Ichthyoptérygiens* qui peuvent atteindre treize mètres de long et qui portent une tête volumineuse terminée par un long museau nous font voir, bien que monstrueux carnivores, des dents coniques, en grand nombre, *faibles*,

logées dans des rigoles profondes et qui n'existent que sur les mâchoires.

Les *Chéloniens* n'ont pas de dents mais un bec corné, etc. . .

Nous ne citerons que ces quelques principaux types, n'envisageant que les formes les plus remarquables parmi l'innombrable faune reptilienne du secondaire, elles nous suffisent d'ailleurs pour reconnaître l'existence de séries reptiliennes totalement *indépendantes* les unes des autres, et chez lesquelles les différenciations dentaires se font isolément dans des directions spéciales. Il s'agit chaque fois, nous le savons, d'adaptations diverses, et les rapprochements morphologiques observables n'offrent le plus souvent aucune relation héréditaire. Les dentures indifférenciées appartiennent, en effet, à des types qui s'éteignent rapidement, et les spécialisations au contraire précisent des formes dont les porteurs vont créer des ordres séparés avec la plus grande netteté. Enfin nous ajouterons pour terminer qu'au dernier terme de cette singulière évolution, *au moment où le type Reptile atteint son plus haut degré de spécialisation*, à la fin du secondaire, au Crétacé supérieur, se rencontrent les *Ptéranodontidés* dont les mâchoires formant un bec aigu sont *dépourvues de dents*.

*Oiseaux*.—Postérieurs aux premiers Mammifères puisque ceux-ci datent du *Trias*, les premiers Oiseaux nous montrent cependant des organes dentaires plus voisins du type primitif que ceux des êtres qui les ont précédés, et si nous rapprochons ces vertébrés des reptiles ailés, nous sommes en outre obligés de constater que si les derniers venus parmi ceux-ci ont perdu toutes leurs dents, au contraire, les premiers Oiseaux sont parfaitement pourvus aux deux mâchoires.

(Suite)

# Traitement Pre-Operatoire des Hemophiles

NOUS lisons dans de la littérature distribuée par la maison Ciba, une excellente méthode pour préparer les hémophiles à l'extraction des dents ou à toute autre intervention de chirurgie buccale susceptible de produire des hémorragies. C'est le docteur S. G. Papadopoulos, de Londres, qui la recommande.

Le traitement est le suivant: "Administrar par voie buccale, chaque jour pendant 5 jours consécutifs, 5 grammes de Coagulène Ciba dissous dans 200 c.c. d'eau; le 6ième jour, injecter par voie cutanée le contenu d'une ampoule de Coagulène, 20 c.c. Le malade est alors prêt pour l'extraction. Les hémorragies locales qui pourraient survenir seront arrêtées en saupoudrant les tampons saignants de Coagulène en poudre. Les injections sous-cutanées pourront être en tout temps renouvelées sans crainte de produire un choc anaphylactique ou d'autres effets désagréables".

On ne saurait agir avec trop de

prudence pour dépister les cas d'hémophilie. Il sera toujours bon de questionner chaque patient pour extraction ou chirurgie sur ses antécédants au point de vue hémorragies. A l'examen physique, il n'y a rien qui puisse nous indiquer d'une façon positive que nous sommes en présence d'un hémophile ou d'un sujet normal. Il faudra se fier aux symptômes subjectifs, qu'on pourra obtenir en interrogeant le patient. Les hémophiles, en général, saignent abondamment à l'occasion de la moindre blessure ou de la moindre coupure, accidents banal aux avec peu de perte de sang pour l'individu normal. De même, si le sujet nous apprend qu'il souffre d'épis taxis ou d'inflammation des articulations, nous serons justifiés de craindre l'hémophilie. (1)

Les cas d'hémophilie véritable et même d'hémorragie très grave sont des cas d'hospitalisation et il n'est pas prudent de chercher à traiter ces accidents à domicile.

*Yves Lafleur, D.D.S.*

(1) Berger: Principles and Technique of Oral Surgery, page 53.

## Revue des Revues

par GÉRARD DE MONTIGNY, B.A., D.D.S., M.S.D.

"ÉTUDE SUR LES ANESTHÉSQUES TOPIQUES EMPLOYÉS EN CHIRURGIE DENTAIRE", par M. L. Tainter, A. H. Thronson, S. M. Moose. (Journal of the American Dental Association, septembre 1937).

Tous les anesthésiques topiques à base d'alcool (50% à 95%), à base de phénol (5%) ou de menthol ne peuvent être employés impunément, à cause de l'irritation trop grande qu'ils produisent

sur les tissus avec lesquels ils viennent en contact.

La larocaïne, l'orthoforme, la tuto-caïne, la méthycaine, la procaine, l'alcool benzlique, la pantocaïne, la nupercaïne, la diothane, la cocaïne et une formule approuvée par l'"Accepted Dental Remedies" de l'A.D.A. donnent des résultats incomplets.

Les solutions les plus effectives sont la benzocaïne, le chlobutanol, la saligeline



et la butyne, toutes à une proportion de dix pour cent. La benzocaïne produit l'anesthésie la plus profonde, mais elle a l'inconvénient d'exiger d'être dissoute dans un véhicule alcoolique (70%).

Il est intéressant de constater que les solutions salines ordinaires produisent l'insensibilité de la muqueuse chez 43% des patients; on peut expliquer ce phénomène par la suggestion, des conditions psychiques spéciales et la faible sensibilité de la muqueuse buccale.

Des recherches sont actuellement menées pour trouver à la benzocaïne une substance dissolvante, qui n'aurait pas les effets irritants de l'alcool.

"LES NEVRITES ET LES DENTS", par Franz Wilhelm Stumpf, D.D.S. (Oral Health, août 1937, vol. 27, no. 8).

Les agents déterminants des névrites aiguës et chroniques sont des bactéries pyogènes, dont les plus connues sont les staphylocoques, les streptocoques et les pneumocoques.

D'après les travaux de Rosenow et de Meisser, ces bactéries sont sans cesse identifiées dans les infections apicales des dents et dans les sacs pyorrhéiques des gencives; il faut donc voir dans ces constatations une relation étroite entre les infections buccales et les névrites.

La Docteur Stump présente les symptômes généraux des névrites, (symptômes, qui apparaissent souvent dans la bouche) et attire l'attention des dentistes sur les services qu'ils peuvent rendre à leurs patients en les référant à leurs médecins à l'occasion.

"L'ACIDE ASCORBUTIQUE", par le Dr M. Joachim (La Revue Odontologique, juillet-août 1937).

Les états pathologiques nécessitant l'emploi de l'acide ascorbutique sont légion. Pour n'en nommer qu'un, citons le saignement des gencives, alors qu'au-

cune cause locale paraît devoir expliquer ces effets rencontrés si souvent.

Les rapports, qui existent entre la vitamine C et le métabolisme du calcium sont multiples et complexes. Cependant le chirurgien-dentiste ne peut se tromper en prescrivant l'acide ascorbutique, spécialement:

1) A tous les malades et principalement à ceux qui ne peuvent avoir des légumes et des fruits en abondance;

2) Aux personnes atteintes de polycarie dentaire et de lésions osseuses;

3) Aux nourrissons principalement quand ils ne supportent plus le jus de fruits, l'hypervitaminose n'étant pas à craindre, comme les expériences le prouvent;

4) Concommittamment avec l'aspirine.

"DEFICIENCES GENERALES ET DENTAIRES CHEZ LES ENFANTS. TRAITEMENT PAR LES AGENTS PHYSIQUES", par M. Nivard (La Revue Odontologique, juillet-août 1937).

Les rayons ultra-violet ont une action remarquable dans certaines déficiences de l'état général. Elle est due à leur influence sur le métabolisme de certaines substances, en particulier sur le métabolisme des sels de calcium.

Au point de vue dentaire, cette action est aussi remarquable tant par les modifications de la structure et la calcification des organes et par conséquent sur l'évolution de la carie que sur le développement et l'éruption des dents elles-mêmes.

Des enfants victimes du manque de soleil, d'oxygène et d'une alimentation incomplète furent soumis aux rayons ultra-violet avec comme effet, augmentation de l'appétit et du poids; les dents marquent généralement une amélioration très nette tant dans leur éruption que dans leur susceptibilité à la carie.

"UNE DIETE CONFORME AU BESOIN DE L'ORGANISME". (Oral Health, juillet et août 1937, vol. 27, nos. 7 et 8).

Dans la livraison de juillet de l' "Oral Health", la rédaction commence la publication d'une série d'articles sur les données générales et modernes de la nutrition; ces communications font partie d'un pamphlet préparé sur ce sujet pour les étudiants de la Faculté de Dentisterie de l'Université de Toronto, par la section de Dentisterie préventive. C'est dire que ces notions sont présentées de la façon la plus simple et en même temps la plus complète.

Le numéro d'août traite spécialement des exigences quotidiennes de l'organisme pour les calories, les protéines, les sels minéraux, etc. et des influences exercées par les aliments sur le pH des fluides organiques.

"FRACTURE DE MACHOIRE EDENTÉE", par V. H. Kazanjian. (The Apollonian, juillet 1937).

Les manuels de chirurgie buccale recommandent la fixation directe de la mâchoire au moyen de fils de métal (cuivre) en passant par l'extérieur, quand il s'agit d'une mandibule édentée.

L'auteur recommande ici le maintien direct des fragments osseux au moyen de fils de cuivre, mais à travers la muqueuse interne. Cette méthode présente les avantages de ne pas créer de cicatrice, d'occasionner moins d'inflammation et de maintenir des drains ouverts en laissant percer les bouts du fil au travers la muqueuse.

"OBSERVATIONS CLINIQUES AU SUJET D'ORTHODONTIE, BASEES SUR UNE PERIODE DE QUINZE ANNEES", par Jerome H. Trier, D.D.S. (The New York Journal of Dentistry, septembre 1937).

1) L'allégation que les traitements orthodontiques prédisposent les dents à la carie est sans fondement;

2) La fréquence des caries est plus grande à l'âge où les traitements d'orthodontie sont institués;

3) Pour prévenir les critiques, il faut absolument recourir à l'examen radiographique avant de commencer les traitements.

4) Des recherches sur les relations qui existent entre les glandes génitales et la structure des dents devraient amener des constatations intéressantes;

5) Les traitements orthodontiques ont-ils une influence sur la vitalité d'une dent et la rendent-elle plus susceptible à la carie, en diminuant sa résistance?

6) La dent de six ans est la dent qui est la plus susceptible de se carier et pourtant c'est cette dent que le dentiste choisit pour y fixer ses appareils; pour obvier aux critiques, il devra donc s'assurer que cette dent est apte à remplir cette fonction nouvelle;

7) Des milliers de cas ont prouvé et prouvent encore que ces traitements ne favorisent pas la carie des dents, ni pendant, ni après le traitement, si les principes physiologiques et les règles d'hygiène sont respectés;

8) Les appareils mis en place pour maintenir l'espace produit par l'extraction prématurée d'une dent temporaire ont leur place en dentisterie, malgré les objections qu'on apporte contre leur emploi.

"EXISTE-T-IL UNE DIFFERENCE DANS LE pH DE LA SALIVE, LA NUIT ET LE JOUR?", par Louis I. Grossman et Bernard M. Brickman. (Journal of Dental Research, juin 1937).

Il n'y a pas d'abaissement apparent du pH de la salive quand les sujets sont éveillés la nuit; il y eut abaissement du pH durant le sommeil de 32 des 36 salives examinées toutes les heures sur une période de vingt-quatre heures; les expériences menées à cette effet montrent que le salive est plus acide la nuit que le jour.



TRAIL HIKERS ON MORaine LAKE

*by kind permission of the artist,  
Mr. Nicholas Morant, and "Saturday Night."*





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## The New Zealand School Dental Nurse

by J. L. SAUNDERS, D.S.O., B.D.S. (N.Z.)

*Director of Dental Hygiene, Department of Health, New Zealand.*

IT IS with pleasure that I accede to the request of the editor to furnish a brief account of the system of school dental treatment which operates in New Zealand. The special feature of this service is that the main personnel is comprised, not of dentists, but of specially trained, school dental nurses.

First let me mention a few of the chief factors which had to be considered when a comprehensive scheme was being evolved. New Zealand is roughly the same size as Great Britain. It is essentially a farming country, and consequently its population of 1,587,000 is mostly widely scattered. There are four main cities with populations of from 80,000 to 200,000, several smaller cities of from 20,000 inhabitants upwards, and numerous towns and villages distributed throughout the Dominion. Half of the population is in the larger cities. There are 2,530 State primary schools, and some 300 private primary schools, and the total number of children attending them is approximately 250,000. The incidence of dental disease is high in New Zealand. Statistics show that 97 per cent of school children are affected by it.

These facts give some indication of the problem which confronted the officers of

the Dental Division of the Department of Health, when, in 1920, they were charged with the duty of organizing, and putting into operation, a school dental service.

The decision was reached that the scheme must be developed on the basis of giving a complete service to a limited number, according to the staff available, and not merely a sporadic service over a wide area. The next major decision was in regard to personnel, and it was here that New Zealand departed from established custom, and introduced the *trained dental nurse*. The first dental nurses commenced their two years' training in 1921, and entered on their duties in the schools in 1923. Today, the service has been developed to the extent that some 1,600 schools are incorporated in the system, and approximately 90,000 children are receiving regular and systematic attention at six-monthly intervals.

### THE SELECTION AND TRAINING OF DENTAL NURSES

The School Dental Service enjoys a considerable measure of prestige with girls leaving secondary schools, with their parents, and with their teachers. Consequently there is no lack of candi-

dates of the right type. Normally, appointments are made once each year, the number varying according to the requirements at the time, and the state of the public purse. The number of candidates always greatly exceeds the number of vacancies. There are certain fundamental requirements. Candidates must be between nineteen and twenty-five years of age; they must have passed the University Entrance examination, or its equivalent, the New Zealand School Certificate examination; they must be at least 5 feet 3 inches in height, and be of good physique; and they must have a sound dentition. Regarding the latter, applicants are required to submit a report from a dental practitioner (on a form provided for the purpose). The possession of artificial dentures is a disqualification. A Selection Committee, composed of dental officers of the Department, then interviews all candidates whose qualifications appear on paper to be satisfactory. This entails a considerable amount of travelling, both for the Selection Committee and for applicants, but the results justify the trouble and expense involved. Personality is so important a factor, that it is impossible to make a satisfactory selection without seeing the candidates. Having passed the stringent examination of a Departmental Medical Board, the successful candidates are appointed to the New Zealand Public Service as Probationer Dental Nurses, and they enter into an agreement to serve for a minimum period of five years. They then enter the Department's Training School for Dental Nurses at Wellington, the capital city of the Dominion, where they are accommodated in special hostels. They receive a small salary and a lodging allowance while undergoing training.

The normal period of training is two years, and the teaching is carried on by a staff of dental surgeon instructors. The first year is largely devoted to theoretical

study, but practical work also has its place. One or two hours each day are spent in acting as chairside attendants to the senior student nurses, while the latter are engaged in treating their small patients. During the first year, the nurses gain a general knowledge of such fundamental subjects as anatomy, physiology, histology, pathology, etc., leading on to the special dental knowledge required in these, as well as in the more purely technical subjects, such as elementary dental surgery. They also carry out a course of metal-work (including working up tooth-forms) to develop manual dexterity. During the last four months of the first year, there is daily instruction in preliminary operative work, using extracted teeth set up in phantom jaws.

The second year of training is devoted almost entirely to the actual treatment of children. The work of dental nurses is limited to prophylaxis, fillings, and extractions under local anaesthesia, for children up to the age of twelve. In case any of your readers should be alarmed at such a seeming incursion into the dentist's realms, let me digress for a moment in order to explain that dental nurses carry out these functions only in the schools as State servants, under the strict control of the Dental Division of the Department of Health. They may not engage in any form of private practice, either on their own account, or with a practising dentist. The position is amply safeguarded by the dental legislation of the Dominion. The dental nurse is regarded, and is taught to regard herself, as being auxiliary to the dental profession, just as the hospital-trained nurse is to the medical profession. Moreover, she is approved and accepted by the dental profession. To revert to the subject of training, the second year, as already mentioned, is devoted almost entirely to treatment. All clinical work at this stage is carried out under the immediate super-



A Section of the Clinic, Training School for Dental Nurses, Wellington.

vision of, and with the assistance of, dental surgeon instructors. A stated amount of clinical work is required of each student dental nurse before she sits for her final examination. Dental health education occupies a prominent place in the syllabus for the second year. Dental nurses are expected to be proficient in teaching children, both individually and in classes, the fundamental principles of dental hygiene, and to be able to address meetings of adults. They are encouraged to develop originality in their methods of interesting the children, and their interest and enthusiasm is such that many of them achieve a very fair measure of success in this important, but difficult, and at times discouraging, branch of their work.

As a matter of policy, the final examinations for dental nurses are conducted by practising dentists, in association with officers of the Dental Division. On completing their training, dental nurses are drafted to clinics in the field. The clinics

are mostly situated in school grounds. In a few cases, nurses work in pairs, but usually they are alone.

#### DENTAL NURSES IN THE FIELD

And now, we come to the Service proper, as it operates throughout the Dominion. I have already remarked that one of the fundamental principles of the New Zealand School Dental Service is that a complete service should be given to a limited number of children, according to the staff available, rather than a merely sporadic service over a wide area. Hence the Service is organized on a strict basis in regard to numbers. Wherever a school dental clinic is established, the schools which it is to serve are carefully arranged beforehand, with due regard to numbers. Each dental nurse is expected to maintain five hundred patients dentally fit, on a six monthly basis of revision. When a clinic is first opened, only the children in the primer, or infant classes





A School Dental Nurse and One of Her Five Hundred Patients.

are eligible for treatment. These children (their parents having signed the "consent" form) are made dentally fit, and, thereafter, are kept under regular observation as they pass up through the school, until they leave the Fourth Standard, which is the present limit of the service. They are called up for re-examination twice each year, and on each occasion any further treatment necessary is carried out. Thus each child is assured of a clean and healthy mouth for a period of approximately six years, between the ages of five and twelve. Parents are encouraged to take their children to the clinics before they enter school, and several thousand children of pre-school age, from 2½ years upward, are attending clinics regularly.

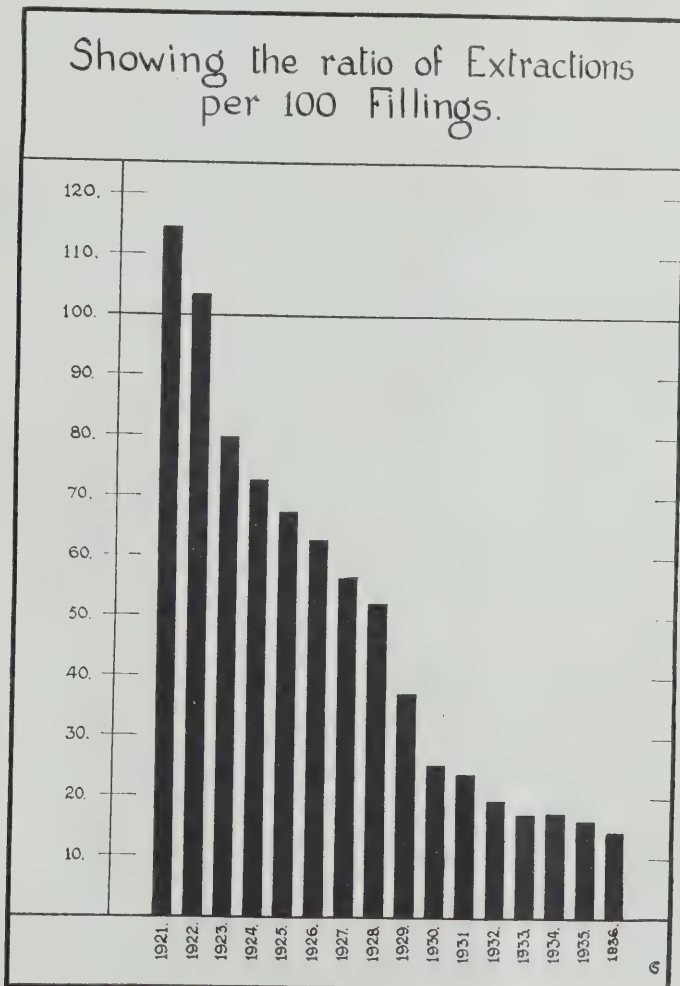
It is important for the success of the Service that the parents should take an active interest in what is being done for their children, and this is not always easy to achieve. The setting up of dental clinic

committees in association with school dental clinics has done much to stimulate local interest. These committees have to undertake certain financial obligations on behalf of the parents whom they represent. For instance, they must provide the clinic itself, built to the Department's standard plans; they provide the necessary non-technical furnishings; they undertake to defray certain local expenses such as heating, lighting, cleaning, laundering, etc.; and they undertake to pay to the Department a sum of £30 per annum (in quarterly instalments) to cover the cost of drugs and materials used. These committees in turn are authorized to levy a charge of not more than five shillings a year for each child treated. They may, of course, remit or modify the charge where they consider the circumstances warrant it. Thus the local committees have a very definite interest and responsibility, and they see to it that the work of their clinic is kept prominently before the community.



As regards the nature of the work performed, both deciduous and permanent teeth receive attention. Copper amalgam is used in all deciduous teeth, and silver amalgam in permanent teeth. For the latter, however, the so-called "prophylactic" filling (of copper amalgam) has been adopted, with excellent results. This operation, sometimes known as "prophylactic odontotomy," is carried out as a routine procedure in all permanent molars with deep fissures, prior to the appearance of caries. The result over

a period of years has been surprising, and this procedure has been a factor, in conjunction with half-yearly revision, in reducing the proportion of teeth that have had to be condemned as teeth which cannot be saved. The graph which accompanies this article illustrates the steady reduction over a period of years in the proportion of extractions to fillings, or, broadly speaking, of teeth which cannot be saved to teeth savable. This figure now stands at 14.6 teeth extracted to every 100 fillings performed. This figure



indicates that the Department's policy of limiting the number of children treated according to the staff available, and giving them a complete service, is a sound one.

Although dental nurses work independently in their various clinics throughout the country, their work is closely supervised by the dental officers of the Department. For this purpose, the Dominion is organized into districts, each under a District Dental Superintendent, who controls all the school dental clinics in his area, and is directly responsible to the Director in Wellington. These officers pay frequent visits to the clinics under their jurisdiction, and their inspections embrace three main features: (i) general matters, such as the condition of the instruments and equipment and the cleanliness and appearance of the clinic; (ii) the organization of the work, which entails an investigation of all books and records, in order to ensure that patients are being re-examined at due date, new entrants being attended to, and that the schools in the group are being dealt with in correct rotation; and (iii) inspection of the operative work, for which purpose a number of patients are selected, and carefully examined with mirror and probe for weak margins, overlooked cavities, etc. Thus everything that a dental nurse does is liable, at some time or other, to come under the critical eye of the inspecting officer.

#### THE FUTURE DEVELOPMENT OF THE SERVICE

The steady development of the Service to embrace all primary schools was interrupted by the financial depression, and for the past few years there has been no substantial increase in the number of school dental clinics. At present there are 252 clinics, of which 144 are main treatment centres, and 188 are sub-bases. (Sub-bases are established where the full

complement of five hundred patients is not available at the main centre.) One thousand six hundred and thirty schools are served by clinics, and approximately ninety thousand children are receiving regular treatment.

When the present Government assumed office some eighteen months ago, it decided that the development of the School Dental Service should be resumed, and accelerated, with a view to making it available for the children of all primary schools within five years. This involved doubling the existing staff, and the main effort has therefore been concentrated on training a greatly increased number of dental nurses each year. A new training school is about to be built, which at first will function in conjunction with the existing institution, in building the staff up to the necessary strength. Eventually it will replace the present training school, which, as a building, has outlived its usefulness, and its function will then be to maintain the Service at full establishment, making good the normal wastage due to marriage.

#### CONCLUSION

A due regard for brevity makes it possible to touch only upon the chief features of the dental nurse system. By means of this specially trained personnel, the Service is being developed on a basis of Education and Prevention. Admittedly the major portion of the work is reparative, but even if it is not preventive in the idealistic sense, it is definitely so in that it is preventing major dental defects, and is inculcating in the minds of the rising generation the necessity for caring for the teeth, and for constantly guarding against dental decay by means that are within the control of the individual. After being in operation for sixteen years, the dental nurse system has justified itself upon the grounds of efficiency and economy. Dealing with young children

is essentially woman's sphere, and dental treatment has proved to be no exception. The dental nurses are particularly successful in managing their small patients. It is unusual to find a child afraid to go to a dental nurse; on the contrary he seems to look forward to it. It is a common sight to see children crowding round the

nurse after school, anxious to be allowed to do something, however small, to help, and little girls delight in playing at being dental nurses.

As long as this spirit prevails, the possibilities with regard to the improvement in the dental well-being of the nation are bright with hope.

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## Retarding the Setting of Amalgam

by JOHN OPPIE McCALL, D.D.S.

*Director, The Murry and Leonie Guggenheim Dental Clinic, New York, New York.*

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IN DENTAL clinics, operative clinics of dental colleges, and even in offices conducting group practices, there will be considerable saving of time for both operators and assistants if amalgam is prepared in relatively large batches whose setting can be retarded until the time when it is to be used for the individual fillings. That this desired result can be attained without impairment of the working qualities of the mass while in the plastic stage or its qualities as a filling material after its insertion, has been demonstrated in six years of employment of this process at the Guggenheim Dental Clinic.

The method to be described was suggested by Dr. Paul Poetschke, long an investigator in the field of dental amalgams. The principle is that of retarding chemical reaction by lowering of temperature. In the case of dental amalgam, chemical reaction is due to the affinities of mercury for the various metals in the amalgam alloy. This reaction begins as soon as the trituration of mercury and alloy is begun and, at ordinary temperatures, continues not merely until the mass hardens but for a considerable period after that.

All chemical actions are influenced as to their rapidity by the temperatures in which they are taking place. The higher the temperature the more rapid the reaction and *vice versa*. To retard the chemical reaction of mercury with other metals, then, would require lowering the temperature. And as mercury is a fluid and thus capable of undergoing chemical change at temperatures even well below the freezing point of water, it is obvious that ordinary refrigeration would not provide an effective slowing up of the process of amalgamation. Fortunately an effective refrigerant for the freezing of mercury is commercially available at low cost. This is carbon dioxide ice, so-called "dry ice." This provides a temperature well below the freezing point of mercury which is -39.5 F. Carbon dioxide ice can be purchased in most cities in block form. A modification known as carbon dioxide snow can be made by the user, as desired, direct from a cylinder of liquid carbon dioxide (as supplied to soda fountains). For this a special outlet valve is required, used in conjunction with a chamois bag. The gas is allowed to escape into this bag from the cylinder, solidifying into a snow-like form due to the low temper-

ature produced as the liquid CO<sub>2</sub> volatilizes. The latter method is the one used at the Guggenheim Dental Clinic.

The carbon dioxide snow is packed into a porcelain-lined cup until this is nearly full. The cup is then placed in a wide-mouth Thermos jug to minimize evaporation. The amalgam is mixed in any desired amount, being amalgamated to the extent called for in the manufacturer's directions. Small pellets are then rapidly formed from the mass and dropped on the snow. Here the pellets quickly congeal, interrupting the process of "setting." When the operator is ready to place an amalgam filling, he picks up one or more pellets and allows them to lie in the palm of the hand for ten to fifteen seconds. The warmth of the hand will thaw the mercury in the mass; the pellet, which was hard while on the snow, now becomes plastic and can be mulled and can have excess mercury expressed as in the usual procedure.

Amalgam prepared as described can be kept in workable condition throughout the day. No tests have been made with amalgam kept for a longer period of time as the carbon dioxide usually evaporates over night. Amalgam fillings made from

pellets kept on the snow for from one to four hours show no change in properties from those made with freshly mixed amalgam. There is no change in packing qualities, no volume change or any change in the other essential properties of the amalgam. Fillings made with amalgam so treated retain their margins and are indistinguishable over the years from those made with freshly mixed amalgam.

In the past year the same procedure as described above has been applied to oxy-phosphate cement to be used for cavity linings with equally good results. The cement is mixed to a putty-like consistency and is then rolled between the fingers into a thin rope; this is then coiled on the surface of the carbon dioxide snow. For the sake of convenience, another cup and container is used for the cement. This process is not well adapted to cement that is to be used for setting inlays or when a thin creamy mix is desired. For cavity linings under amalgam fillings it has, however, proven to be satisfactory as regards the working quality of the cement and is undoubtedly a time saver for both assistant and dentist.

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*It is an unfortunate fact that the average Englishman will not treat seriously the task of getting fit and keeping fit. We all go to infinite trouble and expense to cure ourselves if we are ill, but we just cannot be bothered to keep in good health.*

*We are all quite prepared to agree that food, rest, sleep and clothing are necessary if health is to be good, but we do not as a rule place exercise in the same category. The difference is that if we go without food or sleep we soon suffer, but we can neglect the exercising of the body for a long time before the ill effects are apparent.*

*Of course, if we all lived a natural life, the demand for exercise would be satisfied automatically. Primitive man had to hunt for his food and fight for existence, and thus obtained his exercise, but we live in modern conditions where everything is made easy for us. To counteract these artificial conditions, I am convinced that some form of applied exercise is essential.—A. H. Gem in the "Listener", per "Medley".*



# A Preliminary Report on the Local Use of Sulfanilamide in the Treatment of Oral Lesions\*

by J. A. SINCLAIR, D.D.S., Asheville, North Carolina, U.S.A.

**P**ARA-aminobenzenesulfonamide (sulfanilamide or prontosil), a dye recently introduced to the medical profession, has been found effective in the treatment of a group of infections in which the beta hemolytic streptococci plays an important part.

Dr. Long<sup>(1)</sup> employed this drug in ten patients with streptococcal meningitis at the Johns Hopkins Hospital. With intensive therapy eight of this group recovered. Considering the known mortality of the disease the percentage of recovery is far too large to be attributed solely to chance. (In the thirty-seven previous available cases, records of the Johns Hopkins Hospital, no recoveries from this infection have been noted in the last fifteen years.)

Weinberg, Mellon and Shinn<sup>(2)</sup> report the successful treatment with sulfanilamide of two patients severely ill from this infection.

Schwentker, et al,<sup>(3)</sup> in reporting the recovery of three out of four patients with meningitis state that "Sulfanilamide is probably a specific chemotherapeutic agent for meningitis caused by beta-hemolytic streptococci."

Drs. W. R. Snodgrass and T. Anderson<sup>(4)</sup> state that the use of sulfanilamide is advisable in the treatment of erysipelas.

Drs. Peters and Howard<sup>(5)</sup> report that the spread of the disease was arrested in 24 hours in all 47 cases of erysipelas they treated with sulfanilamide and that in 31

cases the temperature was normal within 48 hours.

Drs. G. E. Breen and Van Taylor<sup>(6)</sup> draw attention to the fact that no spread of the disease or relapse occurred in any patient while actually taking sulfanilamide.

Drs. Long and Bliss of Johns Hopkins Hospital report several cases of scarlet fever in which the administration of sulfanilamide was followed by remission of the fever with a rapid decrease of glandular enlargement and of the infection of the ears. In a serious case with double otitis, the septic temperature which ranged up to 104°F. fell to normal in 24 hours and otitis cleared up in three days.

Drs. Long and Bliss of Johns Hopkins Hospital report striking results from the use of sulfanilamide in the treatment of puerperal sepsis. Marked clinical improvement occurred promptly after the administration of sulfanilamide; however, they suggest that the treatment be started as soon as possible after the infection is discovered as clinical evidence shows the time factor to be important.

Drs. Colebrook and Kenny<sup>(7)</sup> after treating 38 cases of streptococcal puerperal fever with sulfanilamide, concluded that "there is more hope for controlling streptococci infection by this therapy than by any other means."

Drs. Foulis and Barr<sup>(8)</sup> treated 22 cases of puerperal sepsis over a three month

\* The writer is indebted to the Editorial Staff of the Wm. P. Poythress and Company, Inc., Richmond, Va., for a number of abstracts from the medical literature, used in this article.

period with sulfanilamide. The success they achieved was marked by a rapid and striking fall in temperature and general improvement.

Bohlman<sup>(9)</sup> used the product in mixed infections of streptococci and hemolytic staphylococci, also in one case of staphylococcus aureus infection, all with excellent results. Bohlman reports cases of gas gangrene in which he regards the results as amazing. He is convinced it will be of great value in saving life and limb. He states: "Sulfanilamide probably has a specific effect on gas bacilli but the results may in part be due to checking symbiotic growth with the streptococcus."

Long (quoted by Bohlman)<sup>(10)</sup> in conducting experiments with the B. Welchii believes that phagocytosis is not inhibited or enhanced by this drug, that it acts directly to inhibit the growth or multiplication of these bacilli and that its mechanism of action on other bacteria is similar. He states that a prophylactic effect has been noted whenever it has been used therapeutically in experimentation. He suggests that prophylactic doses be given in all severe or crushing injuries in which infection with streptococci gas bacilli might subsequently occur.

Dr. Helmholz of the Mayo Clinic<sup>(11)</sup> reports that the results of three series of observations demonstrate that the urine of patients taking sulfanilamide usually produces its full effect in two or three days but that in some cases where the drug had failed in the first two or three days that interruption of treatment and its subsequent renewal a little later was followed by success.

Drs. H. F. Helmholz and A. E. Osterberg<sup>(12)</sup> demonstrated that the oral administration of sulfanilamide has a specific action on the bacteria which usually cause urinary infection. Frequently the urinary infections cleared up in two or three days (except streptococcus faecolis).

Drs. Long and Bliss<sup>(13)</sup> remind us that if the drug is discontinued too soon a recurrence of the streptococcal lesion may occur. He states: "When one is dealing with mild acute streptococcal infections recovery after the administration of para-aminobenzenesulfonamide or its derivatives is generally so prompt that it seems safe to decrease rapidly the amount of the chemical administered. In mild chronic infections due to beta hemolytic streptococci, such as chronic impetigo and chronic otitis media, it is often necessary to administer the drug over a rather long period or until a definite clinical and bacteriologic cure is effected.

Sulfanilamide is indicated in many oral infections but should never be given without the advice and co-operation of a physician. The local use is without toxic manifestations and may be used in many conditions without fear of complications. During the past six months we have used this chemical routinely in all infections except Vincents with results as dramatic as those reported in medical journals.

In April of this year we first used sulfanilamide in a "dry socket," placing one-half of a 5 gr. tablet in the socket. The patient had experienced the familiar pain with loss of sleep. The next day patient reported a restful night, free of pain. Since then we have extended its use following all operations in infected areas and in all areas where we anticipated infections following operations or injuries. Following the surgical treatment of pyorrhea, powdered sulfanilamide is placed in the wound before the protective pack is applied. Post-operative pain is controlled and the lesion heals without complications. No drug is required for the relief of pain in dry sockets and following the removal of impactions as the sulfanilamide in some way corrects or prevents pain.

An interesting case of a patient with an infected compound fracture of the

mandible was treated successfully by the local application of the drug. The patient had temperature and much pus was present. We placed a half tablet into the wound. The patient returned in forty-eight hours perfectly comfortable, no temperature and no pus present. This treatment was continued twice each week until the lesion healed. No complication or discomfort was experienced.

A boy four years of age was referred to us with osteomyelitis of the right mandible, temperature was 101, much pus from the area of the first premolar. One-fourth of a 5 gr. tablet was worked into the infected area. In 24 hours temperature had dropped to normal, with no visible pus present. This treatment was continued for a week. The mother failed to return the boy to the office for ten days and upon returning a temperature of 101 with much pus was found. The above treatment was again instituted with satisfactory results. However, for a period of 48 hours during this time we did not see the boy and his temperature again rose to 100. Following the next treatment his temperature again returned to normal.

Several months ago we suggested the use of sulfanilamide to Colonel W. D. Lanier, in charge of the clinic at the United States Veterans' Hospital, Oteen, North Carolina. In a personal communication from him he states: "We have treated 946 cases over a period of five months, having applied the drug to the tooth socket at time of extraction (no systemic treatment in these cases). Cases

treated included chronic periapical infection and far advanced pyorrhea — marked results in all cases. No advantages noticed in cases of simple extractions (these cases not included in above). One case of chronic osteomyelitis was treated with fair results."

We have used the drug in healthy tooth sockets; it does not interfere with normal healing. We are unable to detect any value of the drug in the treatment of Vincents Infection.

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*It is known that bacteria obtained from the depths of pyorrheal pockets have the same selective action and affinity for certain tissues in the body as do bacteria obtained from the ends of the roots of infected teeth. Simply pointing out the presence of infection of the roots in the mouth and neglecting to call attention to the condition of the soft tissues and bony supporting structures is, I believe, evidence of negligence on the part of the dentist.—Louis T. Austin, D.D.S., Mayo Clinic, in Jour. A.D.A. and Dental Cos.*

# Full Lower Dentures\*

by H. J. MERKELEY, M.D.S., Winnipeg, Manitoba.

**D**URING the past decade or two we have witnessed the rise of many enthusiastic prosthodontists, each of whom has presented some scheme to stabilize dentures, especially the lowers. There can be no doubt that in selected cases some results have thus occasionally been obtained and on the whole the general efficiency of dentures has been increased. There yet remains much to be done, however, before we can properly claim to have given our patients even partially that denture satisfaction to which they are justly entitled.

It has often been said that in denture work the responsibility is divided equally between the patient and the dentist, but we must admit that it has been fortunate for us that some patients have been so persevering that they have continued to wear the monstrosities sometimes inflicted upon them until the tissues have become moulded to their outline and some degree of stabilization established.

Too often in the past, successive denture specialists have sought to build a whole technique around some small anatomical landmark; but if we are to arrive at anything like success we must approach the subject from the broad basis of anatomical relationships and mechanics. We must seek to obtain not only passive but also active co-operation from these factors, since we have been content too often with the former only.

We are not, in our chosen field as now under discussion, greatly interested in the masticatory muscles, since the teeth are in occlusion when these are tensed, and naturally a denture cannot then be dis-

placed; but if we can recall the orbicularis oris and its many attached muscles, and also the tongue with its association of highly complex interacting and agile muscle bands, we will, on consideration, find these latter two groups are our principle concern. We will find, on reflection, that these, which we may well term the accessory muscles of mastication, are really our only concern, and that a proper understanding and effective use of them will go far towards the production of stability in a lower denture.

Let us now consider the muscles of the cheeks and evaluate their importance to us. Starting at the lips we have the sphincter muscle of the mouth, the orbicularis oris, stabilized in the mid-line by the counter action of right and left groups of muscle bands, and we have no doubt all seen the results when either group has lost its tone due to injury of the facial nerve of that side. Attached to the orbicularis oris at each corner of the mouth we have in the lower, the two heads of the triangularis forming the lower half of an x or an inverted v, and in the horizontal plane we have the buccinator. Attached to the mandible just lateral to the median line on each side and inserted into the integument of the chin we have the mentalis, and although it is separate from the orbicularis oris, yet we must take cognizance of its action having as it usually does such a definite tone.

The action of this whole buccal and labial system will on consideration reveal it as the feeder of the masticatory mill, just as the lingual group play their part

\*Read before the Western Canada Dental Society, Saskatoon, Saskatchewan, May 31, 1937.



similarly. Thus it can be seen that it is not enough to trim the periphery of a denture. We must give definite and effective consideration to the shape of the whole buccal, labial and lingual surfaces and the angle these surfaces make with the tensed muscle bands they approximate during masticatory movements when the teeth are not in occlusion, since the peculiarity of these accessory masticatory muscles lies in the fact that they can be tensed whether or not the teeth are in occlusion.

In the past great stress has been placed on a muscle trimmed periphery. This is desirable but in nowise as important as muscle fitted buccal, labial and lingual surfaces, since lack of care in peripheral trimming can be remedied when the denture is being worn, the spots being easily located on chafing; but there is no way of correcting the other surfaces by guess. The outline of these must be established on the cast taken from our impression, so it behooves us to register all possible muscle movements of masticatory effort on our impression, and only thus can we obtain anything like a scientific result in our finished denture.

#### ANATOMY

As a preparation for an understanding of our problem two essential steps are desirable. First we must carefully review our anatomy until entirely conversant with the musculature with which we must deal and second let us, by taking a series of single sided buccal and a few lingual impressions, seek to register the pull of these muscles we have studied. Probably we have a rather hazy idea of their location and action, and I know one will be surprised and at the same time greatly informed if these impressions are taken from one's own mouth.

During mastication, the orbicularis oris is fixed fairly firmly at each corner of the mouth to prevent the food escaping

forwards, and so dropping out. It cannot escape upwards or downwards, so on tension of the buccinator it is forced to and held upon the masticatory shelf. The tongue, of course, performs a like service on the lingual, occupying a position at a higher plane than usually considered normal. During the act of swallowing the teeth are either in occlusion or resting on a bolus of food. The cheeks may or may not be tensed but the tongue is definitely forced firmly against the anterior palate, and the superior constrictor of the pharynx is carried forwards and upwards. It is this action which cuts the lateral throat region when a lower denture is too long or too deep in this location. Even protrusion of the tongue will not produce a correctly moulded impression of this area during swallowing. We must have the tongue forced firmly against the anterior palate, and in case there is space to extend the denture base into this location, we must sometimes take special steps to properly build a denture to fit without chafing, yet making use of the retention sometimes obtainable.

#### UNILATERAL IMPRESSIONS

Let us now consider the series of small unilateral impressions as before suggested. Three or four will suffice.

If we place a small amount of plaster in the buccal area and then knot the muscles at that corner of the mouth, drawing the corner well back, the teeth in light occlusion, we will demonstrate the lateral pressure of the constricted heads of the triangularis at their insertion into the orbicularis oris and will realize the necessity for the bicuspid being kept well in over the ridge with the buccal slope inclined well lingually. An outward tilt of the occlusal or even a vertical relationship of the buccal surface tends to unseat the denture when these muscles constrict during mastication. The pull of the masseter can be shown in an im-

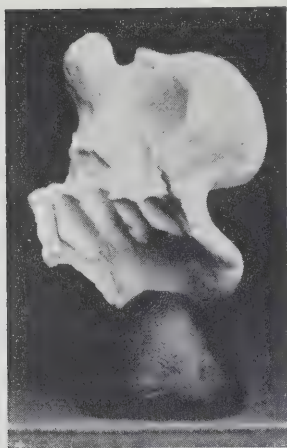


Figure 1.

*Buccal impression in plaster, showing relation of firmly tensed buccinator to the occlusal plane. Produced by the cheek when wiss of the hiss—proo-wiss is sounded.*

pression taken in a similar way if the teeth are held in very firm occlusion. Its attachment will show as being buccal to the second molar, its path extending upwards in a backward curve. In taking these impressions where all the teeth are present it is better to hold a match stick between the teeth to allow for plaster escape, otherwise the plaster cannot be moulded and the muscle paths cut. The partially tensed buccinator and triangularis can be shown if an impression is taken with the lips well protruded. A fully tensed buccinator can also be shown by a little experimenting, and it is interesting to discover that this muscle contracts in its central fibres at a level about 2 mm. below the occlusal plane, thus showing the necessity for the establishment of the occlusal plane at the proper height in full dentures. (Fig. 1.) When the occlusal plane is too high food will pack in the buccal pouch, while should it be too low the cheeks will be lacerated during mastication. Unilateral lingual impressions should be taken with the tongue held fixed in a different posi-

tion for each one. This will give us very valuable information as to the location and direction of muscle pull in its varying positions, as well as the outline of the lingual shelf in the bicuspid area.

Not enough consideration has, to date, been given to the wide variation of muscle tone found in edentulous cases. We may have all degrees from the strong, active, highly developed interaction found in the younger group, to the flaccid, toneless condition found in our elderly patients, where it is often difficult for them to register enough pressure to allow us to effectively use articulating paper. Naturally with this wide variation in tonicity of muscle groups, we will experience great difficulty in the use of any material that cannot be made to conform in mouldability to the necessities of each individual case. Some cases may permit the use of compound, but these cases will usually be where the ridge is well preserved, and with it often the tone of the buccal muscles; but where the ridge is flat and the muscle tone weak, compound of any kind is useless since it cannot be moulded without manual or digital assistance, and this, of course, immediately ruins our impression, introducing as it does the element of guess.

There is only one material which to date has proven generally usable and although many plaster compounds, zinc paste preparations, and various modeling compounds have been tried out, we have always come back to plaster as the impression material of choice in practically every case. It is a simple matter, with a little experience, to make a plaster mix suitable to the muscle tone of each case in hand as it appears, and this, in fact, is the whole basis of success or failure in most of our cases.

#### MOUTH EXAMINATION

It is absolutely necessary to make a complete and careful mouth examination

before any attempt at denture making is begun. We have found the wooden tongue depressor much superior to a mouth mirror for this examination as the tongue can be handled much better in this way.

First we should note the character of the saliva. Is it scanty or abundant and ropy? Scantiness of saliva will probably mean a greater tendency to chafing in flat mouths and the tissue bearing surface of the denture in these cases will need to be very smooth. In fact one may not be able, in extreme cases, to have the patient tolerate vulcanite, but may be forced to resort to a material which will carry a higher polish than is obtainable with the vulcanite. Ropy saliva presents a problem during the impression taking and also interferes with proper seating of a full lower denture. We must be careful to note the comparative muscle tone of the cheeks, so that we will have a guide as to the consistency of our plaster mix for the impression. The tongue character should be noted. If it is bulky, the allowable amount of denture material in buccolingual width must be the minimum with extremely narrow molars. The type of ridge must be noted and if there is an attenuated crest, surgery may be necessary. Sharp spines or abnormalities of muscle attachment, frenulum, etc., may call for correction. The posterior lateral tongue area is very important, because when it presents a suitable contour it should receive proper attention when building the lower denture and can then be used as an additional stabilizing factor. Also where this usable area is large it is better to take a compound impression to make the special tray, rather than the plaster which is routine, as will be discussed later.

We note these oral conditions chiefly for our guidance, but frequently it is advisable to call the attention of the patient to any peculiarities and so obviate

the necessity for an explanatory excuse after the denture has been completed.

#### IMPRESSION TRAYS

It has come to be generally recognized that lower stock trays as obtained from our supply houses are entirely unsuitable for the use for which they were designed and thus a special vulcanite tray for each case is routine with many of our men. We have found that this type of tray is not as satisfactory as it should be. It is clumsy or, if thin, bends too readily for plaster work. Also it cannot be properly bent as is sometimes necessary. Cast solder trays were tried but they proved too heavy for flat cases, it being found that much chafing ensued when they were used to take impressions in these cases. So we have come to the use of swaged 20 gauge aluminum trays. The cost in time and laboratory fees is small and negligible in terms of the increased satisfaction both to the operator and to the patient in the finished denture. For the last few years every lower denture made in our office has been designed after using a special tray to take the impression, and we could not be persuaded to return to the use of the clumsy contraptions, stock trays, in use previously. The only use we make of them is to get an impression to make the special tray, and for this purpose we choose a comparatively flat stock tray that is so shaped that it will not interfere with tongue movements to any great degree.

#### STEPS IN TECHNIQUE

Let us now consider a technique step by step. We have already suggested the selection of a stock tray of suitable shape and design and this is used to take a plaster impression to produce a special tray. The plaster is mixed to a suitable consistency for the case in hand and the patient is instructed to pucker the lips well forwards and backwards, the tongue



Figure 2.

*Special lower tray, completed ready for impression taking. Note compound rests, lingual flange, and roughened surfaces inside and out.*

protruding slightly. This impression is poured and a die and counter die made, from which we swage a 20 gauge aluminum tray. (Fig. 2.)

Occasionally compound will be the material of choice for taking the primary impression, which is to be used for the making of a special tray. It must be remembered, however, that on the whole much greater trimming will be necessary to adjust the special tray when it is made from a compound impression. Generally speaking we find it useful only when the posterior lateral tongue area presents a large usable space.

The periphery of the tray being smoothed, we now fit it to the ridge, trimming as is necessary to have it retain its seat well. Wooden tongue depressors are much superior to mirrors for examining the lingual area impingement at this stage. The tongue should be protruded and the tray seated, then the tongue retruded and the tray tested for seating. Do not overtrim the lingual, trim only enough to prevent floating of the tray. The whole tray is now scarified with a large fissure burr to promote attachment of the impression material.

When the lingual of the ridge presents a more or less vertical wall it is neces-

sary to bend a narrow 45 degree angle rim on the lingual of the tray so that it will project towards the tongue. This will guarantee space for a suitable thickness of plaster on the lingual peripheral borders. Lack of this precaution in these cases will allow the tongue to sheer off the plaster too high up and spoil the impression. Occasionally this is necessary also on the labial.

The next step is to provide for a guaranteed thickness of plaster in the impression. This is done by attaching three small blocks of compound 2 mm. thick,  $\frac{1}{2}$  inch long, one in each first molar and one in the incisal region. The tray is heated over a flame, the softened compound blocks placed into position and the whole pressed against the oiled cast, any compound overhangs being trimmed off. These compound rests thus attached will not only give a definite bulk to the impression but will greatly assist in accurately seating the tray during the impression taking.

We now have a tray fashioned and fitted to the needs of the case in hand, so we proceed with the next step, that of taking the impression.

#### IMPRESSION TAKING

It was previously suggested that we must as far as possible have the pull and action of the buccal, labial and lingual muscle groups, during masticatory action, registered on our impression to be reproduced on our cast. So we have analyzed these movements and simplified them as follows:

The slow and prolonged repetition of each of the syllables hiss-proo-wiss will serve to illustrate what is in mind.

So we instruct the patient accordingly and have him practise before the impression material is placed. When satisfied of co-operation we proceed to make a plaster mix of suitable consistency, usually quite thin, being guided, of



course, by the muscle tones. To produce uniformity in setting time it has proven wise to keep a container suspended in the laboratory to hold water for our impressions. This may be suitably flavoured if you wish.

Note the comparative amount of saliva and if it is excessive the corner of a towel should be placed under the tip of the tongue, to be removed just prior to the insertion of the impression material.

The tray overfilled with plaster is now placed in the mouth and seated, the forefinger of each hand resting in the first molar region, with light pressure, but having them converge at the lip line to give freedom to the orbicularis oris in its movements. The tongue will come to rest in the space between the two fingers, the tip protruding slightly. As soon as the impression has been seated and the fingers placed, the patient proceeds to make the lip, cheek and tongue movements as previously arranged (*hiss-proowiss*). This is repeated a number of times, being careful that the patient does not simply raise the lower lip, as this will sheer off the impression in the labial area and in no wise properly mould the labial or buccal area.

The impression is removed from the mouth when slightly green to facilitate trimming the excess from the back of the tray, which is done with a sharp knife, and the impression is then placed in a pan of water, while the mouth is cleared of all plaster residue.

We have found that while a primary impression taken by this technique is quite accurate and will give us a denture with fair retention, yet it has certain defects which can be easily corrected by using this impression as a tray for a further plaster impression. Even though the mouth seemed dry at the time of the initial impression it is almost invariably necessary to dry it immediately prior to the second one, which is taken by using

the first as a tray. We must now have rather a thinner mix, even though our plaster tray has been kept wet. The facial movements are repeated a number of times as before, but the chief point to now bear in mind is that the tongue must be very firmly held in a fixed position against the upper anterior teeth or palate. Allowing it to move up and down will dissolve the plaster on the lingual periphery and ruin the impression. Also this forcing of the tongue very firmly against the anterior upper palate is part of the swallowing movement and will register certain muscle movements that are very necessary, especially those in the region of the superior constrictor, this being accomplished without the necessity for the completion of the act of swallowing, which under the circumstances is now undesirable. The tray is held in place as previously until the plaster has set. On removal we have an excellent impression showing not only a well-trimmed periphery but also labial, buccal and lingual surfaces, definitely muscle moulded for some distance up from the edge. (Fig. 3.) Note particularly the lingual flange in the bicuspid region and the bulk of plaster denoting the buccal pouch. When pouring the impression we must take care to include these important buccal and labial muscle moulded surfaces so that they may be accurately shown on the cast and subsequently reproduced on the denture.

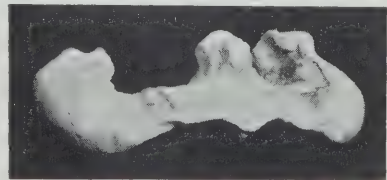


Figure 3.

*Completed lower impression. Note that the whole buccal and labial surfaces are muscle moulded, as well as the periphery muscle trimmed, thus adding greatly to the immediate stability on insertion of new denture.*

### BUCCAL POUCH

Reference has just been made to the buccal pouch. This refers to an area in the buccal region bounded posteriorly by the masseter, superiorly by the buccinator and anteriorly by the distal head of the triangularis. It is the homologue of the pouch used by certain quadrupeds for temporary food storage and is used by tobacco chewers for their quid. It has but little muscle tone in its buccal wall and can readily be used to carry an extension of denture base material which will add great stability to the lower denture, if the area is properly reproduced on the cast.

### TAKING THE BITE

Before considering the set-up it may be well to refer briefly to one or two points necessary to bear in mind in taking the bite. Wax is much the better base plate to use for this purpose, shellac compounds not lending themselves to easy trimming. The second molar region should not make contact with the upper in taking the bite, since this would tend to saucer up the anterior part of our

lower and might lead to complications later on in the finished case.

### CONTOUR OF RESTORATION

In outlining the contour of our restoration we will of course be guided by the necessities of the case as registered on the cast, but we will also need to bear certain other points in mind. For instance, the stress of the tensed muscles in the bicuspid area being exerted internally we must keep the buccal surfaces of the bicuspids from being prominent and may on occasion need to use cuspsids. The gingival concavity in the incisor region must not be forgotten, being necessary, as was noted, to accommodate the orbicularis oris at rest and when tensed. If the buccal pouch area has been properly and sufficiently reproduced on the cast we can readily arrange a suitable convex buccal contour here. Too often an excessive extension in this area is evident, the material having been placed by guess, the patient then complaining of the distortion produced in the facial contour. (Fig. 4.)

On the lingual we can extend a small shelf towards the tongue in the region of the bicuspids, the amount of extension to be guided by the cast, and the character of the tongue. We will not be able to use the large shelf advocated some years ago by our local confrère, Dr. Benson, he having advised covering most of the anterior floor of the mouth, leaving but a cleft for the frenum linguæ. The molars and the bicuspids must not overhang the tongue in the least degree but should occupy a position buccal on the ridge to the lingual peripheral border, that is the lingual of the finished denture must look upwards as well as inwards throughout. The bicuspids must be set well in over the ridge with a definite lingual inclination of their buccal surfaces, thus taking advantage of the pull of the buccal muscles to more securely seat the denture.



Figure 4.

*Ideal form and arrangement of teeth from the standpoint of utility and stability. (Flat lower) Section through the 1st molar.*

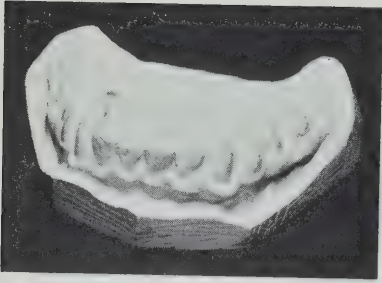


Figure 5.

*Natural lower. Note the lingual inclination, (produced by the buccal muscles) of the occlusal of the molars and the bicuspid.*

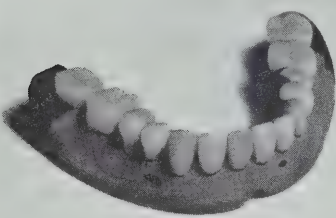


Figure 6.

*Unsatisfactory old lower denture. Note tooth arrangement and molars too wide buccolingually.*

We must not concave the lingual of our dentures in the molar region, since this would mean displacement by the tongue. One should not hesitate to use very narrow molars if the tongue room demands it, and in this connection it is timely to remark that lower molars, as supplied, are usually at least twice the proper buccolingual dimension, and exhibit cusps generally much too pronounced. In fact it may be desirable to go to even the extreme of using bicuspid width in the whole molar region, especially where a sharp ridge calls for a lessened load. We must remember that we are not necessarily called upon to replace the natural molars in the denture restoration by a duplication in size. What we must bear in mind is the utility of the appliance. Summing up the contour of the denture,

we may say that "if we are to place a properly fitting one it naturally follows that we must take cognizance of not only all the factors that will tend to displace it during mastication, when the teeth are not in occlusion but we must use the pull of certain muscles to more securely seat it," that is, to repeat, we must use not only passive but also active muscle retention. (Figs. 5, 6, 7, 8.)

#### OCCLUSAL PLANE

The level of the occlusal plane of the lower teeth is of vital importance, for when it is too low the cheeks will be lacerated during mastication. On the other hand, should the teeth be too high in relation to this plane, then the food will find lodgment in the buccal area, and will be of considerable annoyance to

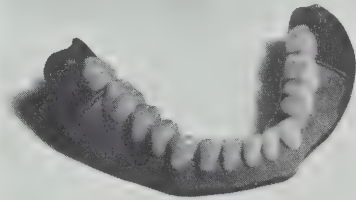


Figure 7.

*New stable lower. Compare with old one as to size of molars and note particularly the denture outline and the lingual inclination of the molars and bicuspid.*

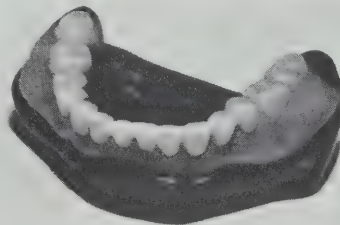


Figure 8.

*Lower denture, outline good but unstable due to poor arrangement (buccal and labial tilt) of the bicuspid and anteriors.*

the patient. The level of the plane on which the buccal muscles normally contract with the natural unworn teeth in place is, as can be demonstrated, on a line about two mm. below the occlusal plane.

The case as now waxed up should retain its seat well when tried in, there should be no tendency to float. When satisfied with its working and appearance, finish in the desired material and you are ready to grind in.

#### GRINDING IN

Some points will now need special attention. The chief masticatory stress must, in centric occlusion, be borne by the first molar region, for should the second molar take the load, there will be, as before noted, a tendency to saucer up the incisors. This is, we may remark, a fault shown by many partial lowers, causing in these cases considerable soreness in the region of the abutment teeth by a chafing of these tissues. Reference has been made to the pull of the orbicularis oris against the incisors, which tends to displace the denture distally, so in order to compensate we grind the anterior slopes of the lower bicuspid, but allow the posterior slopes to occlude, thus tending to seat the lower dentures forward.

Palpate the disto-lingual termination of the denture to locate any misfit in the region of the superior constrictor.

If for any reason the disto-lingual extensions are too short or do not properly fit the relaxed lateral wall, compound should be attached to the denture in this area and moulded by having the patient swallow a number of times with the denture or dentures in place, or one may prefer to use carding wax applied to the tissue bearing surface, reheating and muscle moulding until the fit is satisfactory, then cool and remove. Occasionally where these areas are large, it may be necessary to mould the two sides separately.

Sometimes we may be fortunate enough to have a case present itself where the lower ridge is prominent. In these cases it may be necessary to establish a lingual dam. This may be accomplished by adding low heat compound or even carding wax to the lingual tissue bearing surface of the denture. Reheat, temper and seat under masticatory stress. The added material must not be allowed to approach the lingual periphery but should be added in the form of a small rope, from the crest of the ridge at one heel to that of the other up at least a couple of mm. from the periphery. This will provide a narrow post dam bead that is very effective. Revulcanize or recure and adjust the occlusion.

The whole technique as outlined has been built up step by step, as necessity demanded, after reading the works of Dr. Fish. It is not a completed technique, and you may wish to change it to suit your convenience. It is, however, presented in the sure knowledge that a practise of its principles will go a long way towards solving some of the lower denture problems and enhancing the respect of the public for our profession.

#### REBASING

It may be thought advisable to rebase an old lower denture, to improve its retention by changing its outline. This is a rather difficult task, the desired objective being hard to reach, as so many factors are against the success we seek.

The instability of the denture may be partly due to the location of the teeth, in relation to the ridge, and should an upper denture be worn it is sometimes difficult to correct this without remaking both dentures. Or again, the occlusal curves may, on the one hand, be unduly accentuated, or, on the other hand, may be lacking entirely. Possibly the molars are too large. The anterior teeth and even the bicuspid may be improperly set in



relation to the ridge to permit much improvement in the stability by a correction of the labial surface and the peripheral border. So we should hesitate to promise much improvement by rebasing dentures when the general set up of the teeth, as just discussed, prevails. Rather than risk disappointment it is often better to make a pair of new dentures. For these same reasons it is often difficult to get desirable results where a new denture for the lower is made to articulate with an upper already in place. Should one however, after examination, decide to rebase, the following technique may assist in stabilizing the lower.

First, we check the periphery for muscle impingement, using the wooden tongue depressor as previously suggested. The denture is trimmed at the necessary spot until it no longer floats up when we seat it. Then we check the occlusion until contact centres on the first molar. We now have passive retention, but this is not enough. Should the molars overhang the tongue, they are narrowed to eliminate the overhang, and the bicuspid are checked for buccal prominence, and corrected even if they must be removed and waxed to the proper place. It may be necessary to change the incisors, should they distend the orbicularis oris, no allowance having been made at their gingival for its seat. We now take the lower denture, and after drying and roughing the surface we trace a beading of low heat impression compound to its lingual periphery, so that this edge is prolonged downwards against the floor of the mouth, and backwards toward the throat. We then proceed to heat the compound in a flame, and after tempering, place it in the mouth and allow the patient to close and swallow. The heating and muscle trimming is repeated until the compound shows no further change.

With this preparation as a tray, we take a plaster impression, using the

proper consistency of mix, which is, of course, dependent on the muscle tone. It is necessary first, however, to hollow out the compound where it rests against the lingual sides of the ridge, thus producing a space for the accommodation of plaster, insuring us a good lingual peripheral border. Without this space, the thin layer of plaster might be washed out by the saliva and the impression ruined.

Mix the plaster and insert into the mouth, using of course the denture, as prepared, for a tray. The teeth are closed in centric occlusion, and the (spruce) facial expressions performed. The tongue comes to rest on the anterior palate, and is firmly held motionless in this location, to prevent a washing out or dissolving of the lingual plaster. Should the impression show impingement on the muscles as evidenced by the denture material or compound showing through the plaster on the peripheral border, trim, and after chipping off the plaster retake the impression. This is only necessary, however, in cases where there are large areas showing interference; small ones may be corrected with a knife or stone.

When the denture has been finished, check the occlusion, relieving it on the second molars, and grinding the mesial slopes of the bicuspid. Check also the lateral and protrusive bites, and adjust.

We will now have a denture that will be much more stable, especially if the lingual flange and buccal pouch areas have received the proper treatment according to our impression.

Some experience in the technique herein contained is necessary before ideal results are obtained; but we trust it will make lower denture work a joy to you, as it has to us, and certainly our patients will be much happier when we no longer send them home to habituate themselves to floating, sometimes styled "ivory soap lowers."

# Presentation of Portrait of Doctor John Gennings Curtis Adams 1839 - 1922 \*

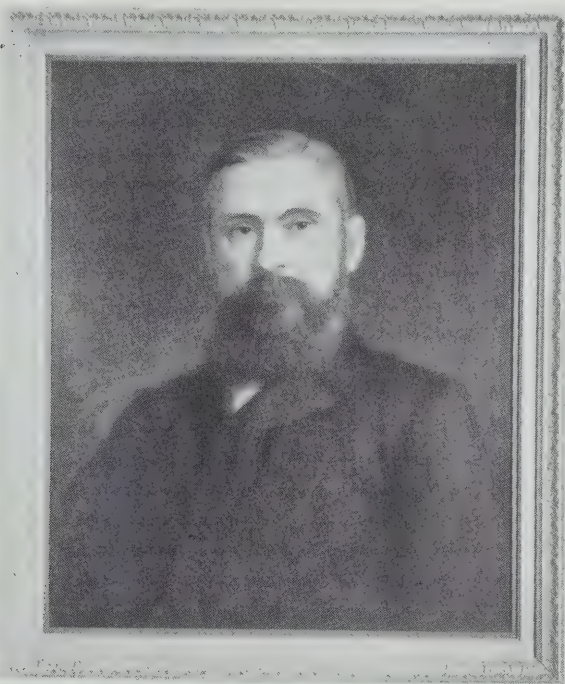
IN ORDER to appreciate our present position in the scientific and social world, it is necessary that we be able to contrast that position with something else which obtained at another time in life's history: and in contrasting two periods of the world's history, we inevitably observe outstanding men in such different periods, and we look for the basic causes, or as we say in our technical language, aetiologic factors which are responsible for the change seen by contrast. In such a study, one is bound to take note of the fact that what we now call charlatanism, faking and superstition, played a large part in medicine and dentistry in the past.

In England, it was not until 1518 that a license was necessary to practise medicine in London. (At that time medicine included dentistry and surgery.) This legislation held until the Medical Act in 1858. At one time the barbers were the expert surgeons and blood-letters, their calling, in fact, pre-dating organized medicine and dentistry. All sorts of concoctions and secret potions, charms and superstitious practices, were used to cure different diseases including toothache, swollen jaws, and as they were then called "ulcerated teeth." Contrast this condition with the scientific treatment of today in medicine and dentistry and we must realize that some men, or some man in every civilized centre, must have stood

out among his fellowmen and led the way.

No man is the peer of Doctor James Branstom Willmott, in legislation and the education of dentists. In the realization of the fact that dentistry was for the good of the people, and a sacred duty of dentists, Doctor John Gennings Curtis Adams, born March 16, 1839, held a similar position. Dentistry was part of his religion, or rather might I say his religion and his dentistry ran concurrently. What he did in dentistry he did because he believed it to be the direct command of God. He started in dentistry because he thought that it was the will of God that he should do so. When he did not have much of this world's goods to support himself and his family, and at the same time was taking care of poor people who could not pay him for his services, he believed God would provide him with sufficient of the world's goods and in this he was not disappointed. He raised a large family, every one of whom was thoroughly educated. Of course he taught them to take care of themselves as much as possible, as they grew older, but it required a lot of sacrifice and industry to educate his family as they have been educated. He had four boys and five girls. All of the boys were graduated in dentistry and took post-graduate courses. Two of them were graduated in medicine, and one of them took three degrees

\* Presented to the profession of dentistry by Dr. Andrew J. McDonagh on behalf of Mrs. Frank Adams, wife of late Dr. Frank Adams and received by Dr. E. C. Veitch, President of the Board of the Royal College of Dental Surgeons of Ontario at the annual dinner of Toronto Academy of Dentistry, October 26, 1937.



—in medicine, dentistry and theology. Besides his boys who took up dentistry, he had one daughter who married a dentist, so certainly his family was imbued with the idea of dentistry.

During Doctor Adams' time it was necessary, if one desired to practise dentistry, to be articled with a practising dentist. For this reason, he became a student in Doctor William Case Adams' office, but started his own practice in 1874 and established an office at the corner of Yonge and Elm Sts. In that office he had many students who were articled to him, and who later took a leading part in the profession of dentistry in this country.

As his family grew up and he had the opportunity to do so, he looked after the teeth of the children in Elizabeth Street School without any cost to the School Board or the children. From this you will see he paved the way, and probably

was, to a very great extent, responsible for our present excellent school clinic which has done so much good.

Doctor Adams, in his enthusiasm to disseminate useful knowledge, published and distributed a number of pamphlets containing much valuable information about the care of children's teeth; and also the effect of diseased teeth on the state of health of adult patients, which is now such a widely discussed topic.

His zeal and enthusiasm did not stop here, however, for he felt that there should be a clinic for poor people, who could not afford to pay dentists' fees, and so he established such a clinic on Terauley Street in 1901, and took care of hundreds of the city's needy so far as dentistry was concerned.

He believed he had the assurance of the city that, as his hospital was a charitable institution, he would be left tax free. In this assumption, however, there was

some misunderstanding and the city insisted on him paying taxes on a property that was not bringing him any money, and which was taking care of the city's poor. When Doctor Adams could not raise sufficient taxes for the city, they put the bailiff in and sold him out.

He then went to Hamilton, in which city he carried on similar work; and the reports are that he was fortunate in obtaining more co-operation and more support in Hamilton, than in Toronto.

Many of his friends thought he was sacrificing himself unnecessarily for inappreciative, sometimes undeserving, and always unfortunate citizens, and tried to persuade him not to so sacrifice himself. His answer invariably was that he was relieving humanity for God's sake, that

it was a trust given to him by the Almighty, and as long as he had the strength and the opportunity he was going to carry on.

As far as Canada is concerned, therefore, he was the originator of all the altruistic Oral Hygiene programs from which we have benefited. He realized, and made others realize in a very large way, that it was a great privilege to be a dentist, so that one might relieve the sufferings of humanity. In connection with this he preached, day in and day out, that the love of God must be the base and foundation of all our actions. Truly, he was a Christian gentleman, a soldier of God, and "died in his boots" May 22, 1922.

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*Every proposal for change in medical and dental service should be tested with the question "For whose benefit?" Unless the change will help, either directly or indirectly, in the fight against disease and death, it cannot be justified. The fact that it may increase the income of physicians, help pay the interest on hospital investment or provide salaries for a body of administrators, unless it will also improve medical service, is no justification. This is a simple test, but applied strictly to many of the proposals for medical changes before the public at the present time, it would elicit a verdict of condemnation—Morris Fishbein, M.D., in Jour. A.D.A. and Dent. Cos.*

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*"In the last session of the United States legislature, some 250 odd bills became laws. Each one of them involved the subtraction of part of the commodity dollar. Not one of them provided for the dentist to get a part of that commodity dollar, too. It seems that, after everyone has secured his share, the dentist will have to make the best out of the scraps that are left."—Francis L. Goldin, D.D.S., in Oral Hygiene.*



# The Metallurgy and Manufacture of Dental Amalgam\*

by J. STANLEY BAGNALL, Halifax, Nova Scotia.

THE busy practitioner is apt to think that such a subject as the Metallurgy of Amalgams contains nothing of interest for him. Amalgam is probably our most used filling material and when inserted by a correct technique, in those cavities where it is indicated, it is perhaps the best material we have for saving teeth. While it lacks the necessary strength to be used in certain types of cavities, such as the thin compound preparation in the posteriors, and is unsuitable because of its colour in those portions of the mouth where it might show, it has, on the other hand, some very obvious advantages, such as its close adaptation to the cavity walls and also it has a more or less germicidal action. If we examine amalgam fillings in extracted teeth we find that many show such marked defects that they have failed to save the teeth in which they were inserted. We see cases where the amalgam has broken away at the edges, leaving areas where recurrent decay can start; teeth split as a result of expansion of the amalgam; others where the amalgam has contracted, leaving wide gaps for the teeming micro-organisms of the mouth; somewhere the amalgam has bulged over the edge of the cavity at the gingival margin, resulting in gingival irritation, pocket formation and loss of the tooth, and finally, cases where the cavity has been incompletely filled due to improper packing of the amalgam during insertion. These are errors of technique in our

handling of the material and can be overcome by the careful operator who understands the limitations of his material.

If we are to understand this material we must think of two groups of factors: one under the control of the manufacturer; the other under the control of the operator.

Let us consider first that group of factors which is under the control of the manufacturer and which we may later refer to by saying that we should only purchase approved amalgams. We are all tempted to purchase when an agent walks into our office and offers us amalgam at a price lower than we have been paying, or when we pick up a periodical with glowing claims by some manufacturer about his particular material. Before commencing to use this material we should stop long enough to ask ourselves one question: Will it be possible with this new material to insert better, or even as good, amalgam fillings as I am putting in at present? First, let us consider the matter of price. Even our largest fillings can be inserted at a cost in material equivalent to about the postage on a letter, so that the amount of saving to be made on even an ounce of alloy does not amount to very much. Granted that we have two materials of equal value for the purpose for which it is intended, we would be foolish to select the more expensive. The price at which an amalgam is sold is no clue

\*Presented at Refresher Course of Dalhousie University Dental School, combined with the 47th Annual Convention of the Nova Scotia Dental Association, September 3, 1937.

to its value for the purpose. If on the other hand we are impressed with the glowing claims of the manufacturer, are we wise to accept them without further investigation? If we start to-morrow to use a new amalgam, how long will it be before we know how well that material stands up in the mouth? It is not likely that it will be less than six months and in that period the average dentist will insert a large number of amalgam fillings. We may find that our material shrinks badly on setting and that all our fillings, put in during that period, have been worse than useless. When we think of the fillings we will have to replace, or of the patients who have gone elsewhere because our fillings have not stood up, we are apt to express the wish that there ought to be some way to be sure that the material which we are using will do what is claimed for it. It was just this condition which, a few years ago, led to the setting up of a series of tests for amalgam, and other materials, and as a result it is possible to-day to find out whether a material has been approved or not.

#### MAKE-UP OF AMALGAMS

Before speaking of approved amalgams, let us consider the make-up of this common filling material.

It was in the closing decade of last century that G. V. Black started the work which has paved the way for the present day amalgams, which will do what is expected of them if they are properly used. It is a tribute to the splendid work he did that so much of his work remains unchallenged. The formulae have changed but little, in spite of the fact that the world has never seen so rapid an increase in our knowledge of alloys of all kinds as it has during the past forty years. New metals have been discovered, and our knowledge of the old metals has been greatly extended. But since his day, laboratory methods for

examining and testing metals have improved greatly, and it is only to be expected that as our knowledge grows we will modify and change some of the fundamentals he laid down.

When Black started his work the alloy used to mix with mercury to form the better dental amalgams was composed almost entirely of two metals, silver and tin. He found that silver imparted strength, lessens flow, hastens setting, and that it united slowly with mercury and caused expansion. Tin makes the mixture easier to amalgamate, retards hardening, causes flow, contracts on setting, and has a great affinity for mercury. It will be noted that with each one of these characteristics each metal is the opposite of the other. It then became simply a problem of combining the two materials in such proportions that the unwanted characteristic of one metal would be offset by the desired characteristic of the other. He succeeded in working out the proportions so that he had a properly balanced alloy, and alloys made to-day in accordance with his formula still prove satisfactory. He recommended a formula of approximately 72% silver and 28% tin. The best thought at the present time favours about 26% tin and certainly it should not vary beyond the limits of 25% minimum and 27% maximum. Black also considered other metals, which, because they are used in very much smaller amounts in the mixture may be spoken of as modifying metals. These were copper and zinc. Since our opinion of the value of these two metals has changed somewhat since Black's time we will consider the modern opinion of these metals. Copper makes quite a durable amalgam alone with mercury, although it is rather slow setting. It has the very desirable quality that it neither expands nor contracts when mixed with mercury, and still retains this property when mixed with other metals. It takes

up mercury very slowly and hastens setting of the mixture, just the opposite to its action when it is mixed alone with mercury. It has the disadvantage that it imparts a jet black colour to the alloy. He also investigated zinc, but came to the decision that it must not be used in dental amalgams. However it has certain very desirable qualities, chiefly in that it has a beneficial effect on the colour and assists in controlling the working qualities of the other metals. These are offset by its tendency to increase flow of the amalgam, that is change of shape under pressure of mastication, so that an amalgam of this type, no matter how carefully it is inserted, will slowly, but steadily, bulge out over the gingival edge. Later workers however, found that increased trituration and more vigorous packing overcame the harmful effects of the zinc. Zinc is also electro-positive to all the other metals used, which means that it will pit in the mouth and the filling gradually assumes a somewhat moth-eaten appearance. The best opinion to-day is that copper must not be present in excess of 6% and zinc in excess of 2%.

We ask and expect the manufacturer to furnish us with a material which, when properly used, will not contract and will not, at any stage of the setting process, expand beyond very slight limits, since expansion might result in fracture of the tooth or cause the filling to swell sufficiently to make it extend above the cavity margins. A very small amount of expansion may be an advantage in that it serves to force the filling into more intimate contact with the tooth substance. This amount of expansion has been set at about 4 microns, or roughly, about one-sixth the diameter of a hair. An equally important factor, particularly in compound fillings, is that the material must not flow. The third member in this group of factors of primary impor-

tance is that the material will not be attacked by the oral fluids, or fluids with which it might come in contact in eating. We think here of resistance in the sense that the filling will not wash away, as even the best of them will change colour under the action of the oral fluids. A factor of somewhat less importance is edge-strength, that is, that the material will have sufficient hardness to resist fracture in use. This is of variable importance, since there would be no danger of fracture where the filling was surrounded by four good walls. It should harden in a reasonable time, chiefly because of the danger, particularly in young patients, that it might be broken before it has hardened properly, and also because we can better shape a filling which does not take too long to harden. The last factor is colour. What an advantage it would be if we only had a material as easily inserted as amalgam which could be used in the front of the mouth!

#### APPROVED AMALGAMS

Much excellent work has been done on amalgam, particularly in recent years, but two groups stand out distinctly because of the excellence of their work. There are the National Physics Laboratory in England, where the work was carried out under the direction of Dr. Rosenhain, who unfortunately died while the work was still in progress, and the Bureau of Standards, Washington. The latter group have laid down certain specifications for dental amalgams and it was to their work that I referred earlier when I spoke of approved amalgams. When they carried out the first tests in 1927 they found out that 31 makes of amalgam were being sold to the profession and that out of these only seven:—Crandalls, Fellowship, Minimax 178, Neys, True Dentalloy and Twentieth Century met the requirements. Since that time

other manufacturers have brought their materials to the required standard, so that at the test in 1935, there were 47 alloys which met the requirements. Today if you are not sure of your amalgam or if you are thinking of changing to a new alloy, first make sure that it is an approved amalgam. You will be sure then that you have looked after the first of our initial requirements, namely, that we have made sure of those factors which are under the control of the manufacturer. But, no matter how good our material, it will not do the work required of it if it is not handled properly, and that is our part of the operation.

Before considering the role of the operator there are one or two more points in connection with the manufacturer which require emphasis. In the past we have had salesmen tell us that their alloy was the best on the market because it contained gold, or some other precious or commercial metal. Any metal which is added to the mixture we now have, or replaces any of these metals, must at the same time improve those qualities which have already been laid down as essential qualities. For example, to say that gold must improve these qualities, just because gold is a more expensive metal, does not follow that its addition means a better amalgam; as a matter of fact it does not. In the past, alloys were sold on the basis that they contained gold; if they did, they were not as good alloys as a properly balanced alloy, which did not contain it, and actually, many of the alloys which were claimed to contain gold and sold at a high price on that basis, did not contain any gold.

It would be a rash statement to say that we now have the perfect alloy for the purpose, as a better one may come out to-morrow. We hope that sooner or later better materials will be available to assist us in our work, but don't take the claims of a manufacturer or someone

who has used them as proof. First find out how they stand up to the scientific tests of an independent laboratory.

#### ROLE OF THE OPERATOR

The first operation which the dentist carries out with the amalgam is to rub it up with mercury in a mortar. The amount of mercury used, provided there is sufficient, is not nearly as important as the way in which alloy and mercury are mixed. Frankly we do not know just what takes place here or why the mixture sets to a hard mass. We thought at one time that the mercury actually dissolved some of the constituents and that if we squeezed out the excess mercury this excess would carry out some of the constituents with it. We know now that this idea is wrong and that the excess mercury so removed does not carry with it any but the most minute traces of the metals in the alloys; not enough to upset the accurate mixture of materials which the manufacturer has compounded for us. Therefore we may remove excess mercury with impunity. A good working explanation is that what actually happens is probably a coating of all the particles of the alloy with a minute film of mercury. Therefore we must stir up the mixture long enough to insure that each particle receives its coating and be sure we have enough mercury in the mix to do this. A certain amount of pressure will help. Then at some stage of our filling process all the excess mercury, which is not required, should be squeezed out, since its presence would only serve to weaken the final filling. While there is a difference of opinion among operators as to whether this excess should be squeezed out before the filling is inserted or after it is in the cavity, the former is the preferable method from the metallurgical standpoint as it will result in less expansion. I have said already that the tin portion of the filling unites much more



readily with the mercury than the silver. If our mixing is not carried out long enough for this coating process to be completed it would have just the same effect as if we had not started out with a balanced alloy, since we are not bringing all the constituents into our mix. Again we may have portions of the powder which have not received their coating of mercury and since we know that this must happen before the amalgam will harden, then it is reasonable to assume that these uncoated parts will not stand up in the mouth and after a period of use the filling becomes pitted in appearance, or breaks in use. The necessity of thorough mixing was first grasped, and in the techniques published a few years ago, particular stress was laid on this, until someone realized that even a good thing can be overdone. Ingenious mechanical mixers were introduced, and we were rather surprised when we found that amalgams so mixed did not show up as well in the tests as the old methods of mixing in a pestle and in the hand. The explanation of the danger of over mixing may be due to grinding the particles of alloy smaller, overheating caused by friction or to a factor known as "work hardening". If we take a piece of metal and bend it once, this initial bend, in the case of many metals, is quite easy; but each time we attempt to bend the metal again in the same place we find it harder, until, if we persist the metal becomes so hard that it breaks. The internal structure of the metal has changed. Much the same kind of an effect may take place in the over-triturated amalgam. To-day it is considered good practice to triturate in a mortar for about one minute under a pressure a little greater than the weight of the pestle and then in the palm, or in a thumb stall, for another one to one and a half minutes. The mix should be transferred from the mortar to the thumb stall as soon as the mass

will hold together. The thumb stall method seems to be the best yet devised and has the advantage that there is probably less variation between mixes than by any other method.

It hardly seems necessary to stress the need of a dry cavity and a filling kept dry during the filling operation. Water and mercury will not mix. Don't add fresh mercury to your amalgam when you have the mix partly in. It may not affect setting, but it will cause a marked decrease in the strength of your filling. Don't try to economize by buying cheap mercury. Impure mercury contains metals which may injure tooth or pulp. Don't worry about metal poisoning from the mercury in amalgam. The amount of mercury which could enter the system in a year from even a poor silver amalgam filling is less than a therapeutic dose of some commonly used forms of mercury.

When a dentist steps into his car he realizes that he must use that car in a certain way to get the best results from it and even the best gasoline will be useless as a fuel if it is not mixed with air in the proper proportion. He must use his amalgam with the same intelligence, if he wants to obtain good amalgam fillings. Start with an approved amalgam, sold on the basis of its physical tests, not on the price basis. Mix it with mercury in the proportions suggested by the manufacturer for that particular alloy, remembering that some excess mercury speeds amalgamation, but that all excess mercury must be removed at some stage in the filling operation. Mix it long enough to insure sufficient amalgamation, using a mortar and pestle of such a type that the pestle fits the bottom of the mortar and does not force the amalgam up on the walls very much, and don't overmix, although some overmixing will be less dangerous than undermixing. Mixing will require a somewhat longer time with a smooth mortar than with a

ground mortar. Have everything ready and carry out your filling expeditiously in a dry field, and if your material becomes so dry and hard that you feel you should use more mercury to soften it up, your technique is wrong. A rough test for a good working mix is one that will take a finger imprint and roll out into a rope about  $\frac{1}{8}$ th inch in diameter. The time before carving can be started will vary somewhat with the alloy used, as some set faster than others. One which you can start carving about five minutes

after insertion will give ample working time. This will allow practically 10 minutes for carving as a properly inserted alloy of an approved make should not remain soft enough for carving for longer than 15 minutes. If your filling sets slowly, make sure that you have worked out all the excess mercury.

Properly prepared amalgams will not deteriorate with lapse of time, provided they have not been stored in an unusually warm place.

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## Grenfell Labrador Medical Mission Requires Dentist

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THE chairman of the Staff Selection Committee of the International Grenfell Association has announced that there is a vacancy in the permanent staff of Harrington Harbour, Saguenay County, Quebec.

This position is available at once for a dentist who would like the position and who could afford to go for a small salary. This might appeal to some recent graduate.

It has been suggested that \$500.00 per year would be paid clear of all expenses, that is to say the dentist would receive travelling expenses and maintenance. It

is recommended that anyone applying states his requirements.

The dentist at Harrington makes his headquarters at the hospital but would be expected to do a certain amount of travelling, setting up his equipment at Mutton Bay and Forteau Nursery Stations, probably once during the winter, and once during the summer for as long as was necessary. Travel in winter is by dog team and in summer by boat.

It is imperative that the applicant should be congenial to the present staff and the people on the coast.

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*As you think, you travel; and as you love, you attract. You are today where your thoughts have brought you; you will be tomorrow where your thoughts take you. You cannot escape the result of your thoughts.*

*You will realize the vision (not the idle wish) of your heart, be it base or beautiful, or a mixture of both, for you will always gravitate toward that which you, secretly, most love. Whatever your present environment may be, you will fall, remain, or rise with your thoughts.—James Allan.*

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# Problems in Practice

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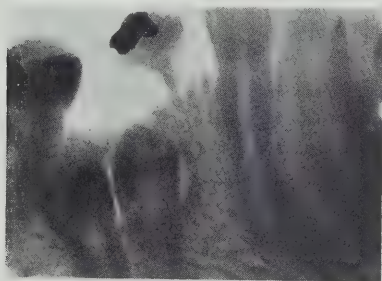
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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM ALBERTA:



Referring to the above radiogram, do you consider that orthodontic treatment should be instituted, or should the impacted teeth be extracted, or just what should be done? The patient is 23 years of age.—*P. J. Kendall, Vegreville.*

## REPLY FROM NOVA SCOTIA:

I showed the film to Dr. Gordon Hennigar (exodontist) and our joint suggestion would be as follows: Remove the remains of the deciduous molar, also as much of the bone above the unerupted premolars as can be cleared away without injuring the pericemental attachment of adjacent teeth. It is possible that the first premolar, and perhaps the second, might erupt under these circumstances. If they do not show any tendency to do so it is doubtful if it is wise to attempt their eruption by orthodontic means, considering the patient's age. There is not sufficient room for them between the

canine and the molar should they both erupt. Whether this space could be enlarged could not be decided without a knowledge of the occlusion, which data is not available.—*Wm. W. Woodbury, Halifax. (Orthodontist.)*

## REPLY FROM BRITISH COLUMBIA:

In my opinion, taking into consideration the age of the patient (23), I would favour the removal of both bicuspid. Adult orthodontia, particularly the assisting in the eruption of suppressed teeth has not proved satisfactory with me.—*Archie Johnson, Vancouver. (Exodontist.)*

## REPLY FROM QUEBEC:

It is my belief that these two unerupted bicuspid should be removed as, due to the patient's age, the possibility of eruption is very remote. Orthodontia would be possible but the length of time required to bring them in to articulation would hardly warrant the trouble. I think the crowns will be found protruding through the lingual of the mandible. It would be unwise to leave them as they are, because the patient needs the biting surface and it would be a fallacy to build a bridge either fixed or removable without removing them first.—*F. W. Saunders. (Exodontist.)*

**REPLY FROM QUEBEC:**

I take it for granted that the rest of the occlusion is good.

It seems to me from the appearance of the film that the two bicuspid's are lying either buccally or lingually. My procedure would be to have the deciduous molar extracted and the bone overlying the occlusal surfaces of the bicuspid's removed. The soft tissue overlying the occlusal surfaces should also be removed in such a way that the surfaces are exposed and scar tissue will not form over them.

If the bone has been acting as an obstruction to eruption this will be eliminated and there is a possibility that the teeth may erupt somewhat. They should be kept under observation for a period of six months to a year. If at the end of that time they do not show any sign of erupting an orthodontic appliance may be inserted to assist their further eruption.—*Gerald Franklin, Montreal. (Orthodontist.)*

**REPLY FROM ONTARIO:**

If the patient is not suffering from any local or general disturbance which might be caused by these suppressed teeth, I would remove the deciduous tooth and fill in the space with a removable fixture.

However, if the patient is suffering from soreness or swelling in that area, or from headaches or reflected pains, I would advise the removal of these buried bicuspid's.—*Edgar W. Paul, Toronto. (Exodontist.)*

**REPLY FROM ONTARIO:**

In this case it is rather peculiar that the first premolar has not moved forward. If a removable prosthetic piece, resting upon the ridge, is inserted the stimulation may be sufficient to bring about the eruption of these premolars; it looks as though there is sufficient room for them. If it is later found necessary, more space could be obtained with a simple orthodontic appliance.

If the first premolar does not appear in the course of a year or less, the overlying bone might be cut away. If this latter procedure does not bring about the eruption of these teeth their movement could be brought about by an orthodontic appliance, details of which I shall then be pleased to supply.—*Geo. W. Grieve, Toronto. (Orthodontist.)*

**REPLY FROM WINNIPEG:**

The root tips are not shown, so it is impossible to know if they be fused or crooked. Since the first bicuspid did not erupt to a higher level one is led to believe it would be difficult to persuade even it to take its place should space be made, also the age of the patient makes molar movement questionable.

Everything considered, extraction is, I believe, the solution. Replacement can be made as desired; but the patient should be advised previously that an anaesthesia of the corner of the mouth may be produced which will persist for some time.—*H. J. Merkeley, Winnipeg. (General Practice.)*

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*About 37 per cent of all inflammations of the gingivae are due to imperfect dental operations, consisting of failures to make restorations in the best form and to re-establish proper contacts—Black's Operative Dentistry, 1936, Vol. 4, page 104.*



# The Forum

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## • THE HISTORICAL AND BIOLOGICAL ASPECTS OF THE PULPLESS TOOTH QUESTION

by GEORGE C. SHARP, D.D.S., Pasadena, California

IT IS not the pulpless tooth that we have to fear to-day as endangering the health of our patients, for twentieth century dental science is adequately able to cope with pulpless teeth. It is the untreated, degenerating vital pulp which is a source of danger to the system. Dentists who leave diseased dentine for fear of exposing the pulp are shirking their responsibility. A patient with a properly treated pulpless tooth, checked annually with radiograms, can suffer no ill effects from the tooth. He will be able to masticate his food thoroughly and in comfort. His appearance and enunciation will be normal. If we are to be worthy of our calling we should study and practise to perfect ourselves in this operation which is so highly desirable for the happiness and well-being of our patients.—*Excerpt from Journal of the A.D.A. and Dent. Cos., August, 1937.*

## • INFLUENZA

INFLUENZA itself is a more or less harmless complaint. Its danger lies in the fact that it removes temporarily the natural resistance of the body to diseases of the respiratory system. During the attack, and for some short time afterwards, the victim is defenseless against a number of illnesses that normally could not successfully assail him. It follows that the secret of safety during an epidemic of influenza lies in replacing, so far as possible, the shattered defences.

The process of thinking and of making decisions imposes strain which ought, when influenza is present, to be eliminated altogether, and even work performed in one's bedroom constitutes a handicap upon recovery. Warmth, rest, cheerfulness, and a blessed inactivity of mind and body are the conditions in which Nature effects most easily and most completely her mission of healing.—*The Times.*

## • APHORISMS OF DENTAL PEDIATRICS

by A. T. PITTS, D.S.O., M.R.C.S., L.R.C.P., L.D.S., London, England

1. The best place for most mothers is in the waiting room, but it may call for much tact to keep them there.
2. Children have their own personalities which demand and deserve respect. It should be the aim of the dentist to co-operate with this personality rather than to attempt to overawe it by his own.
3. Sympathy, gentleness and a sense of humour are perhaps the most valuable qualities of the dentist who treats children. Patience is also necessary but he who has gentleness will not lack patience.
4. Never discourage a child's questions. A child who wants to know is more than half-way towards being a good patient.
5. A patient of mine, now middle-aged, told me that when he was a child the dentist he and his sisters went to was called by them "Old open-and-shut," for those were the only words he said. Needless to say, they disliked him.
6. When seeing a small child for the first time, try to learn as much as you can by inspection before using a mirror.

Hands and fingers are familiar and cause no alarm. Mirrors and probes are not familiar and what is unknown may be dreaded.

7. A gingivitis limited to one side or the presence of unilateral sordes is a certain sign that a child has had toothache on that side.

8. A lack of normal spacing in the incisor region in a child of five is itself a form of malocclusion and foreshadows crowding in the permanent dentition. It is possible that growth will occur to accommodate the permanent teeth but it is improbable.

9. Orthodontic treatment is most successful when it gives a push to nature in the direction which she ought to take.

10. It has been said that you should never make friends of your patients, but he who does not make his child patients his friends will never be very successful in the management of children.—*Public Health*, June, 1937.

• THE INFLUENCE OF THE RADICAL ANTRUM OPERATION ON THE VITALITY OF THE ADJOINING TEETH

(Der Einfluss der Radikalen Kieferholenoperation auf die Vitalität der benachbarten Zähne). Wilhelm Meyer, Deutsch. Zahn-Mund-u. Kieferbl. 2: 434 (1935).

THE author performed a radical antrum operation on a monkey and six months later made a histologic examination. He found no changes in the pulps of the teeth.—*International Journal of Orthodontia and Oral Surgery*.



"I still think it's an awful lot of work to go to, Homer, just to pull a tooth!"

Reamer Keller.

Reproduced by kind permission of the artist, Mr. Reamer Keller, New Dorp, Staten Island, New York, N.Y.



PRINCE EDWARD ISLAND



W. T. Wye, Charlottetown

NOVA SCOTIA



A. W. Faulkner, Halifax

NEW BRUNSWICK



J. F. Edgecombe, Saint John

Editor—M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

QUEBEC



F. W. Saunders, Montreal

ONTARIO



T. R. Marshall, Toronto

MANITOBA



J. F. Morrison, Winnipeg

SASKATCHEWAN



F. C. Harwood, Moose Jaw

ALBERTA



John Clay, Calgary

BRITISH COLUMBIA



J. S. Bricker, Vancouver

## Illuminated Signs

We are living in a day when there is a rising tide of colour and that colour is Red. It is not without significance that the Russians are called Reds. This sign of the Red is being displayed all over the world in many forms. Walk down one of our city streets in the evening and about all one sees is Red. Bible students will affirm that this condition was prophesied some thousands of years ago. However, even though our stores and streets are emblazoned in vermillion and illuminated in Red, there is no reason why dentists should adopt this craze of the Neon sign and so drag our profession down in the public esteem and also off the high pedestal of ethical conduct which has been gradually built up over a period of many years. Furthermore, what might be said about Red signs for professional use might well be said about almost any form of illuminated sign.

In British Columbia some of the old advertising men are still using Neon signs. There are no such signs in use in Alberta or Saskatchewan as they are prohibited. In Manitoba a few are in use as there is no provincial prohibition.

The only control is over holders of Dominion Dental Council certificates and a control self-imposed by those who respect the ethics of the profession.

In Ontario there are very few Neon signs in use by dentists as it is only recently that the company could place a three-inch tube in front of a four-inch painted letter. The Royal College of Dental Surgeons of Ontario regulations regarding signs are that a dentist must not display more than one illuminated sign, or an illuminated sign which is intermittent, or one in which the light or letters are other than clear, white, or yellow. Letters of all signs must not exceed four inches in height.

In Quebec at the present time the use of Neon electric or any other form of luminous sign by the dentists is prohibited. This law was enacted a little over a year ago and since then all such signs have disappeared.

In New Brunswick, small Neon signs are used by a very few dentists and are, in the opinion of the profession in New Brunswick, of such a size and style as to cause no criticism.

Neon dental signs are not used in Nova Scotia and thus have presented no problem in this province.

At this time when illuminated signs are becoming ever more widely used in the commercial world it behooves us as professional men to set up standards for our profession which are above reproach.

The writer is of the firm opinion that one of these standards should be the complete suppression of all illuminated signs by the dentists of Canada and that the Canadian Dental Association should encourage the various provincial organizations to adopt the policy.

In the case of the holders of Dominion Dental Council certificates this question is already settled in so far as Neon electric signs are concerned as the Council has ruled that the use of such signs is unprofessional and not allowed. Might we not hope that this Council, in co-operation with the Canadian Dental Association, might give a definite pronouncement on the whole question of signs and particularly all kinds of illuminated signs, in so far as their use by the members of the dental profession in Canada is concerned.

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## BOOK REVIEW

### **Dental Nostrums and the Public Health**

—by Samuel M. Gordon, Ph.D. and Eleanor B. Dufour, A.B. A booklet of 30 pages, paper cover, which may be obtained from the Council of Dental Therapeutics of the American Dental Association, 212 East Superior Street, Chicago, Illinois. The prices are: 10c per single copy; 12 copies, \$1.00; 50 copies,

\$4.00; 100 copies, \$7.50; 500 copies, \$25.00; 1,000 copies, \$45.00.

This booklet contains three articles on Tooth Bleaching Quackery, Pyorrhoea Quackery and Doctor, What Dentifrice Shall I Use? which originally appeared in *Hygeia*. Accompanying the booklet is a list of dentifrices standing acceptable to the Council as to August 10, 1937.



## NEWS FROM THE PROVINCES

### **BRITISH COLUMBIA:**

#### **Pacific Coast Dental Conference**

The Fifth Pacific Coast Dental Conference will be held in Vancouver during the week of July 4, of next year.

### **ALBERTA:**

#### **Resolution**

On September 20 the Lethbridge Dental Society passed a resolution, making the Journal of the Canadian Dental Association its official organ.

#### **Calgary Dental Society**

The Calgary Dental Society held its first meeting of the year at the Renfrew Club on September 13, at 6.15 p.m.

Dr. A. C. Ahrens, who has just completed a year at Northwestern University Dental School, where he obtained his Master's degree, presented a paper on "The Development and Clinical Application of the Alkaline Local Anaesthetic Solutions." A very interesting and profitable discussion followed.

#### **Edmonton Dental Society**

The first meeting of the Edmonton Dental Society for the year was held in the MacDonald Hotel, October 5, at 6.30 p.m.

A résumé and discussion of the Western Canada Dental Convention was conducted by the following men:

Dr. Carmichael—Dr. Merkeley's Lower Denture technique.

Dr. MacLean—Dr. Gibson's clinics.

Dr. Brown—Dr. Prime's lectures.

Dr. Jones—Dr. Tyler's Staining Methods and Dr. Tinker's Bridge Work.

Dr. MacLaurin—Dr. McDougall on Periodontia and the making of Howes' Ammoniacal Silver Nitrate Solution.

Dr. Gowda—The Edmonton Dentists at the Saskatoon Convention as seen by him.

#### **Lethbridge Dental Society**

At the September meeting of the Lethbridge Dental Society, Dr. A. C. Ahrens gave a talk on the "Composition of Local Anaesthetic Agents in Dentistry." This was followed by a

very full discussion which occasioned an interesting meeting.

Dr. Ahrens, D.D.S. University of Alberta, M.S.D. North-Western University, formerly practised at Taber, Alberta, and has just returned from a year post-graduate study in oral surgery at North-Western University where he received his Master's degree. Dr. Ahrens is leaving shortly to spend a year in Guy's Hospital clinic, London, England.

### **SASKATCHEWAN:**

#### **Regina Dental Society**

The Regina Dental Society is away to a good start for the season, under the new slate of officers consisting of Dr. J. A. MacGregor, President; Dr. W. H. Ross, Vice-President, and Dr. W. Hanceck, Secretary.

The September meeting was largely a social get-together meeting at which plans for the season were discussed.

It was decided to accede to the request of the Saskatchewan Dental Society that the Regina Society be responsible for putting on a Provincial Dental Convention in Regina next year. The chairmen of committees were appointed with power to name the members of their own committees and other preliminary plans were considered.

The October meeting was largely attended and an interesting and instructive talk given by Dr. Robson, one of the physicians of the city, on "The Relation between Pregnancy and Dental Caries."

#### **Provincial Council**

At the recent election for members of the Dental Council of the Province, the following were successful: Dr. W. W. Irwin, Moose Jaw; Dr. E. W. Mounteer, Regina; Dr. W. Fraser Smith, Regina. This year's council will consist of Dr. P. W. Winthrop, Saskatoon; Dr. J. A. Brass, Yorkton, and the three recently elected, together with Dr. L. J. D. Fasken, secretary-registrar of Regina.

The annual council meeting will be held on October 25 at which the election of officers of the council and routine business will be transacted.

The friends of Dr. L. J. D. Fasken, Regina, and their name is legion, will rejoice with him in the recent announcement of the appointment of his son Norman, to the Department of Chemistry of the University of Toronto.

#### **Moose Jaw Dental Society**

The Moose Jaw Dental Society was called upon to bid farewell to two of its active members this summer when Dr. F. M. Murray left to practise in Calgary and Dr. R. H. McDougall moved to Victoria to practise. About the same time the ranks in the Society were filled up again when Dr. Duff Leask decided to remain in Moose Jaw and entered into association with Dr. W. W. Irwin, and Dr. J. Fraser Muirhead took over Dr. McDougall's practice. Two more native sons have joined the already considerable number of Moose Jaw boys in dental practice in the city.

#### **Conquest Dental Clinic**

A dental clinic was held at Conquest in September, sponsored by the Homemakers' Club and the School Board. About one hundred children received treatment.

### **MANITOBA:**

#### **Winnipeg Dental Society**

On Thursday, October 7, the Winnipeg Dental Society opened its season's activities with the new executive in charge, the president, Dr. C. M. Truman, presiding. Dr. Clare McInnes gave a comprehensive review of the events of the June convention of the Western Canada Dental Society, paying glowing tribute to the lecturers and clinicians with particular mention of our own Dr. Howard Merkeley, whose clinic and film illustrating a modified Fish method of stabilizing lower dentures was so well attended and praised.

Dr. M. H. Garvin followed Dr. McInnes with a fifteen minute talk on some of the highlights of the annual convention of the A.D.A. held this year in Atlantic City. This convention is so huge that it is impossible to cover much of its happenings in a quarter of an hour allowance of time and Dr. Garvin could only mention some of the prominent topics taken up, the underlying thought of most of them being that of prevention.

An interesting discussion of the virtue or

otherwise of the analgesic effects of nitrous oxide for cavity preparation took place during the evening and more along this line will no doubt be forthcoming before the end of the winter season.

### **ONTARIO:**

#### **University Lodge A.F. & A.M., Toronto**

Perhaps the most unique event in the history of this lodge was celebrated on October 15 as "University Night." To make a Master Mason "At sight" is a prerogative of the Grandmaster of any jurisdiction but only on very rare occasions is the ceremony ever performed and when it is, the recipients of such a degree are given a distinctive honour. Honorable Dr. H. J. Cody, President of the University of Toronto, has been granted this singular honour by M.W. Bro. W. J. Dunlop, Grandmaster of Grand Lodge in the Province of Ontario. The occasion will long be remembered by members of University Lodge and its Master, Mr. Chas. Gulston. His Honour, Dr. Herbert A. Bruce, Lieutenant-Governor of Ontario, a charter member of the lodge, was present and gave a most interesting address entitled, "The Coronation as I Saw It." Over 500 members and visitors were present to see the ceremony and do honour to President Cody on his joining the craft. Guests were present from all over Ontario and a number from very distant parts. Dr. Russell A. Williams of Class '23 Dentistry, now residing in Miami, Florida, came home especially for the event. Dr. Williams, too, has travelled far in the Order, at present holding the rank of Grand Orator of Grand Lodge of Florida. There were many celebrated persons in the gathering whose presence, indeed, lent dignity and prestige to an occasion when a great fraternal Order honoured a great Canadian.

#### **Resolutions by Eastern Ontario Dental Association**

At the annual meeting of the Eastern Ontario Dental Association held at Ottawa, October 4-5 (with the largest attendance for some years) the following recommendation was received and passed unanimously:

Moved by Dr. S. G. McCaughey, seconded by Dr. S. W. Bradley:

"Because of the importance which will be

attached to the Canadian Dental Association as a Dominion body, in speaking for dentistry in any legislation which may affect dentistry, it is the opinion of the members of the Eastern Ontario Dental Association, in Convention, that this Canadian Dental Association should receive more financial support.

"It is recommended that the Royal College of Dental Surgeons of Ontario contribute at least one dollar per member per year to the Canadian Dental Association, even if this necessitates an increase in the annual fees."

A Resolution was also passed making the Journal of the Canadian Dental Association the official organ of Eastern Ontario Dental Association.

E. B. SPARKS, Secretary, Kingston.

#### **Eastern Ontario Dental Association Officers**

The following officers were elected at the 60th Convention of the E.O.D.A.: President, Dr. G. V. Tario, Pembroke; Vice-President, Dr. James Coupland, Ottawa; Secretary, Dr. E. B. Sparks, Kingston; Committee—Dr. George O. Hutchinson and Dr. Roy McDougall, both of Ottawa; Dr. Dwight Mallory, Brockville; Dr. Kenneth McDowell, Renfrew, and Dr. J. C. Broom, Kingston.

#### **Dentists' Wives Association**

The dentists' wives of Ottawa have formed an Association and formulated a program of very general interest. An organization meeting was held last January at which aims and objects were discussed. There was a desire to become better acquainted, also to have an organization which would be in a position to extend hospitality to wives visiting Ottawa, with their husbands who were attending dental conventions.

Furthermore, plans were made to thoroughly investigate the needs of the underprivileged children through local organizations, to determine what practical assistance could be rendered, as these ladies are deeply interested in the dental care of children and in preventive dentistry. Already they have secured dental films which have been shown in Saturday programs for children.

The corresponding secretary, Mrs. Lorne MacLachlan, advises the writer that the members meet monthly, all dentists' wives being

welcome, and at these meetings there is a program of music in addition to a speaker.

#### **Visitor from Saskatchewan**

Dr. James P. Whyte, of Swift Current, has just paid a flying visit to Toronto. Dr. Whyte, known to all his classmates of Class '21 as Whytie, is an alderman of Swift Current City Council. Moreover, he is chairman of the Finance Committee of the Council, and it was business in this connection that brought him East. Those who have been in touch with Dr. Whyte since his graduation know what a splendid contribution he is making to the public life in his community. We hasten to wish him well and continued success.

#### **Gyro Dental Clinic**

The Gyro Club of Port Arthur has been operating a free dental clinic for underprivileged children, for several years, entailing an annual expenditure of from \$500 to \$1,000.

#### **Toronto and District Golf Tournament**

The annual Fall Tournament of the Toronto and District Golf Association was held on Wednesday, September 15, at Burlington Golf and Country Club. The principal trophies were won by the following: The R. G. McLean Trophy, Dr. Lowry; the D. A. Elliott Trophy, Dr. L. Hipwell; the Dr. W. M. Box Trophy, Dr. R. W. Hoffman, and Inter-City Competition, Toronto East.

During a very pleasant evening, the officers for 1938 were elected as follows: President, Dr. W. D. Clark, of Hamilton; Vice-President, Dr. P. G. Anderson, of Toronto, and Secretary-Treasurer, Dr. D. S. Coons, Hamilton.

#### **Dental Clinic Tag Day**

Over 40 young ladies sold tags in Weston on October 16 in aid of the school dental clinic. This is the first tag day to be held to aid the dental clinic which has now been in existence three years.

#### **Dental Nurses' Alumnae Association**

The opening meeting of the Dental Nurses' Alumnae Association was held on Tuesday, September 14, at the Faculty of Dentistry, with the new executive for the ensuing year in

office. The officers are as follows: President, Miss Nan Braidwood; Vice-President, Miss Dorothy Collette; Recording Secretary, Miss Nedra Groves; Corresponding Secretary, Miss Phyllis Sandham; Assistant Corresponding Secretary, Miss Marjorie Joyner; Conveners—Social, Miss Grace Singer; Visiting, Miss Eva Tutt; Membership, Miss Margaret Alexander; Treasurer, Miss Eleanor Crerar.

The meeting took the form of a "Get-together," and was very well attended.

The second meeting of the year, held at the Faculty of Dentistry, on October 12, was presided over by Miss Nan Braidwood. Arrangements are well under way for the annual dance being held at the Royal York Hotel on November 18.

Miss Jessie Rourke of the Central Circulating Library addressed the meeting in a most delightful manner. She reviewed some of the current books of the day.

Some changes in the constitution will be discussed and put to a vote at the November meeting. We hope all members will be present. We need your support.

PHYLLIS SANDHAM, Corresp. Sec'y.

#### **Day-Old Baby Has Tooth Pulled— Believed Record for Dominion**

A woman dentist and a woman doctor combined September 12 to put in Toronto's bid for the youngest dental patient in Canada. Dr. Helen Manchester, dentist, assisted by Dr. Helen J. McKinley, attending physician, removed a tooth—one of two—from the mouth of a baby boy, 26 hours and 10 minutes old, at the Toronto East General Hospital.

The baby dental patient arrived Saturday, with two teeth in the middle of his lower jaw, one of which was found to be loose. Dr. Manchester was called in, and a consultation followed as to the effect of the operation on the child. It was decided that the risk of the tooth's working out and being swallowed by the infant was too great. The extraction followed.—*Toronto Star*.

#### **QUEBEC:**

##### **Dental Nurses' and Assistants' Association**

In conjunction with the Montreal Dental Club, the Montreal Dental Nurses' and Assist-

ants' Association held its Annual Fall Convention under the able leadership of Miss Phyllis Bender at the Mount Royal Hotel, September 22-24.

The president's address was given by Miss Mildred Starr who outlined the history of the Association. She stated that in 1926 the Montreal Dental Assistants' Association was founded; that in 1933 the Progress Study Club was formed and that in 1935 these two Associations were amalgamated under the name of the Montreal Dental Nurses' and Assistants' Association.

She attributed a large measure of the success of the Association to the enthusiastic support and co-operation of the Montreal Dental Club.

Miss Starr then introduced Miss Jessie M. Ritchie, R.N., who is associated with the Wellesley Hospital Alumnae Association and who is secretary to Dr. J. A. Bothwell, of Toronto. Miss Ritchie spoke on "The Dental Nurse on Duty."

On Wednesday evening, following a display by the members of the Association, a supper was given by the Denco Limited (Eastern).

On Thursday, Mrs. Edwards, president of the Ontario Dental Nurses, was guest speaker at a luncheon for the nurses at the Berkeley Hotel, compliments of the Ash Temple Company.

Mr. C. K. Vaughan, Pelton & Crane Company, addressed the gathering on "Sterilization of Instruments and the Care of the Sterilizer."

On Thursday evening members and their friends attended the Montreal Annual Fall Clinic supper dance and on Friday morning attended the lecture by Harold E. Tingley, D.M.D., Harvard University, on Silicates.

This was the most successful clinic to date.

#### **NOVA SCOTIA:**

##### **Officers of the Dental Association of Nova Scotia 1937-38**

President, Dr. F. R. Duxbury, Halifax; Senior Vice-President, Dr. G. V. Turnbull, Digby; Junior Vice-President, Dr. R. M. Langille, Truro; Secretary, Dr. J. Stanley Bagnall; Halifax; Executive Committee—Doctors F. R. Duxbury, G. V. Turnbull, R. M. Langille, A. B. Crowe and J. S. Bagnall; Dominion Dental Council Representative, Dr. W. C. Oxner, Halifax, and Dr. V. D. Crowe



(alternate) Truro; Canadian Dental Association Representative, Dr. A. W. Faulkner, Halifax, and Dr. G. S. Ritchie (alternate), Halifax.

### **Dental Insurance Scheme**

A dental insurance scheme assuring subscribers of free dental treatments at a cost of 15 cents a week has been launched in Sydney by a private company. It is called the Dental

Benefits Friendly Society of New South Wales and will operate on the same lines as the present hospital societies, the secretary, J. Stephen, explained.

A man or his wife, he said, will make the weekly contribution to a central organization and be entitled to free treatment, with certain exceptions for expensive treatment. There will also be certain privileges for children.—*News and Citizen Sun, Truro, N.S., September 3, 1937.*

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## **EMPIRE NEWS**

### **GREAT BRITAIN:**

#### **Build British Health as War Preparation**

On September 30, Britain began a campaign, for health and physical fitness, of great magnitude.

Prime Minister Chamberlain opened the campaign with a broadcast inaugurating a 2,000,000 "health drive," including everything from setting-up exercises to child welfare services; from organized games to health films and better care of the teeth.

Participation will be entirely voluntary but the drive will be especially vigorous in the so-called "depressed" areas, the slums and large industrial areas.

### **Technical Courses for Dental Mechanics**

Suitable technical instruction for junior dental mechanics that will make them more competent to carry out their duties will be generally welcomed by employers. For some time past evening classes for this purpose have been held in certain London localities, as for instance, the Marylebone Central Institute, the Acland Technical Institute, Tufnell Park, and the West Hill Evening Institutes, Wandsworth. After a session of about thirty-six weeks the students are encouraged to pass on to the higher evening classes at the Borough Polytechnic, and take the City and Guilds of London Institute Intermediate and Final grade examinations in Dental Mechanics. Commencing in October full-time day courses of two

years' duration are also to be held at the latter institution for a limited number of Central and Secondary School boys, 15 years old or over. The syllabus of studies appears to be comprehensive and excellent, and the training afforded should certainly assist to raise the general standard of dental mechanics.—*British Dental Journal, September 1, 1937.*

### **AUSTRALIA:**

#### **North Australian Dental Congress**

This great congress has passed into history, the attendance being the largest yet achieved at any congress in the Commonwealth. The dentists who attended, including a few from abroad, together with their wives and daughters, numbered well over 1,000 persons.

The arrangements for the Congress were as nearly perfect as possible and all enjoyed the galaxy of papers, addresses and clinics so ably presented.

### **NEW ZEALAND:**

#### **Dental School Anniversary**

The thirtieth anniversary of the opening of the Otago University Dental School was celebrated in June by a Ball and Dinner. The students' executive circularized practically all the dentists in New Zealand with a view to making the function a general reunion.

At present the school has 128 students in attendance.

## GENERAL NEWS

### **Chicago Dental Society Mid-Winter Meeting**

Because events on the program are too numerous and concentrated to allow practitioners to familiarize themselves with all of the latest advances in the field of dentistry, the Chicago Dental Society has announced that the annual Mid-Winter meeting to be held in February will be increased to five full days.

The following is the condensed program for the five-day meeting:

Monday A.M.—Registration and exhibitors' clinics; P.M.—General clinics; Eve.—General session.

Tuesday A.M.—Section meetings from 9:30 to 11:00; A.M.—Scientific and commercial exhibits, 11:00 to 2:00 p.m.; P.M.—Section meetings from 2:00 to 5:00; P.M.—The annual frolic.

Wednesday A.M.—Section meetings from 9:30 to 11:00; Noon—Ladies' luncheon; P.M.—General session; 11:00 to 2:00 p.m.—Scientific and commercial exhibits; Eve.—Supper dance.

Thursday A.M.—Section meetings from 9:30 to 11:00; A.M.—Scientific and commercial exhibits, 11:00 to 2:00 p.m.; P.M.—Section meetings from 2:00 to 5:00; Eve.—Stag party.

Friday A.M.—Scientific exhibits and essayists' clinics; P.M.—General clinics in the grand ball room.

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### **Taking the Mystery Out of Medicine**

One of the principal ambitions of the Division of Health and Science of the 1939 Golden Gate International Exposition, which will be held on the world's largest man-made island in San Francisco Bay, is to take the mystery out of medicine.

This intention has been announced by a voluntarily-formed committee of leading western medical men who are working out the details of the health exhibit for the World's Fair. The major emphasis will be, they say, on the prevention of disease rather than on its treatment. In keeping with the Exposition's

Pageant of the Pacific theme, the contributions of Pacific nations toward the health of humanity will be dramatized. Proper nutrition, practical knowledge of vitamins, sanitation, vaccination and other matters of public health will be explained for the layman.

The exhibit plans already have the co-operation of several American universities, notably the University of California, Stanford, the University of Southern California, California Institute of Technology, Harvard University, University of Oregon, and University of Washington.

The committee includes a large number of very prominent men.

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### **Cancer**

For several years, the Study Committee on Cancer has been making careful studies in the hope that something might be done to lower the terrible mortality from this disease in Canada. It was evident from the outset that, pending the discovery of the cause of cancer, success could be attained only through an educational campaign of national scope which would include physicians and the public at large. To this end, the Board of Trustees of the King George V Silver Jubilee Cancer Fund has recently made an annual grant of \$14,000 to the Canadian Medical Association. The grant carries with it the provision that the Canadian Medical Association will take the initiative in the formation of a national organization of laymen and physicians to combat the cancer scourge.

It is scarcely necessary to say that the Canadian Medical Association has accepted a heavy responsibility. At the same time, it has been given an unusual opportunity to render a great public service. Success will depend not only on medical organization, but also on the individual co-operation of its members.

Dr. J. S. McEachern, the tireless Chairman of the Study Committee on Cancer, well deserves our congratulations for the part he has played in this forward step in the fight against cancer.—*Excerpt from the Report of the Executive Committee of the Canadian Medical Association, Ottawa, June, 1937, per The Canadian Medical Association Journal.*

### **Sugar Consumption in America Reaches New High**

Secretary Wallace fixed the sugar consumption requirements for continental United States for this year at 7,042,733 short tons as compared to 6,812,687 established in 1936.

7,042,733 short tons is 14,085,466,000 lbs. or about 112  $\frac{2}{3}$  lbs. per capita per year.

The new Sugar Control Act signed by President Roosevelt Sept. 1st which levied a process tax of  $\frac{1}{2}$ c a pound on sugar is expected to cost consumers at least 60 million dollars annually in processing taxes.—*Statistics from Chicago Tribune 9-3-37.—A.D.A. Press Release Service.*

### **Population per Dentist**

Our teeth have fared better than the rest of our bodies in the matter of professional attention during the first third of the century. The proportion of dentists in the total population has been steadily increasing. The population per dentist in 1901 was 4,045, in 1911, 3,289, in 1921, 2,779, and in 1931, 2,567. This happy condition is not to last, however, for the enrolment in the faculty of dentistry at the universities is dropping faster than in any other faculty and during the 1930's the number of annual graduates has been less than half that of the 1920's. At the present rate it will be 45 or 50 years before the dentists now practising can be replaced, without any allowance for increase in population.—*Excerpt from "Coming Shortage of Professions", by E. C. Buchanan, in Saturday Night, Sept. 4, 1937.*

### **Voluntary Medical Scheme Found Beyond Low Wage**

"A Voluntary Plan for Prepayment of Medical Services" is now in operation in Ontario, under the associated Medical Services Incorporated, and with the aid of the Ontario

Medical Association.

Dental Services are not yet included but will be when arrangements can be made.

There are at present 325 subscribers and 415 physicians on the list.

Those who have joined can now budget medical costs along with food, rent, clothing, etc., which is an admirable and satisfactory plan for those who can afford it.

How many people in Ontario can afford to put away \$80 to \$90 a year for possible medical and hospital bills? Miss Marjorie Bell, of the Visiting Homemakers Association, estimates that a family of five needs at least \$1,200 a year for sheer subsistence. Before they can begin to save, there must be at least \$1,600 a year.

About 75 per cent of the wage earners in Ontario earn less than \$1,500 a year with steady employment. At once then, more than half a million wage-earners are out of reach of this plan for health protection.

More than 55 per cent of Ontario wage earners have an income of less than \$1,000 a year and about 63 per cent of the wage-earners are married.—*Excerpt from article by Margaret Gould in Toronto Star, October 4.*

### **New Dental Law in Missouri**

By this act a dentist may not use the words "x-ray" or "gas" upon his window or door plate, nor advertise by means of a neon sign.

Registered dentists are also exempted from jury service from all courts in the state.

### **New Dean Appointed**

Dr. Russell W. Bunting of Ann Arbor, Michigan, has been appointed Dean of the School of Dentistry of the University of Michigan.

## IN MEMORIAM

**Harold H. Halloran**—of Toronto, Ontario, aged 42, died very suddenly at his home, October 3, from a heart attack. Dr. Halloran, affectionately known as "Pete" to so many friends, was always popular. Beneath his picture in 1918 *Torontonensis*, someone wrote—"Where'er he met a stranger, there he left a friend." "Pete" was born in Guelph, and came to Toronto with his parents when very young. He graduated in dentistry with Class '18. He was a member of the Dental Faculty staff for five years and has always conducted his dental practice in Toronto.

He was always a sport; played football with Dents as an undergraduate and later made himself famous with Argonauts. He was a golfer, too; a member of Briars Club at Jackson's Point. He was a member of Holy Rosary Roman Catholic Church and held membership in Knights of Columbus order. He was an enthusiastic member of XI PSI PHI dental fraternity, continuing his interest after graduating as secretary of the Chapter House Association.

Dr. Halloran is survived by his widow, two daughters, three brothers, a sister and his parents.

**Robert H. Henderson**—of Toronto, Ontario, aged 77, died October 5. During the last four years Dr. Henderson had been retired from active practice. He began his dental career rather late in life, having taught school for some years. Later he conducted an insurance business, and finally took up the study of dentistry. After graduating he was in general practice for eight years, then succeeded his brother

Thomas, who pioneered as an exodontist in Toronto. Dr. Henderson possessed a very likeable personality and enjoyed a wide circle of friends. Dr. Ed. Paul, of Toronto, is his nephew.

Dr. Henderson is survived by his widow, two sons and one brother.

**Stanley B. MacGregor**—of Smith's Cove, Digby County, Nova Scotia, aged 61, died September 29, from pneumonia.

He was immediate past-master of King Solomon Lodge A.F. and A.M., Digby, and was affiliated with several agricultural societies and organizations, conducting a farm on his property at Smith's Cove. The flower garden at his home was one of the show places of the community. He was a keen sportsman and was one of the executive of the Digby and Annapolis Counties Fish and Game Protective Association.

Dr. MacGregor is survived by his widow, two daughters and one son.

**John F. Rollitt**—of Westmount, Quebec, died suddenly of a heart attack October 16. He was born at Lakefield, Quebec, and graduated from Bishop's College in 1897. He was practising in Huntington at the outbreak of the war and entered the C.A.D.C. After the war he was engaged in clinical work for some time in Barrie, Ontario, under the Department of Soldiers' Civil Re-establishment but returned to Westmount in 1923 and continued his practice there.

Dr. Rollitt is survived by his widow, two daughters, one son, four brothers and one sister.

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## Conventions

THIRTEENTH GREATER NEW YORK MEETING, HOTEL PENNSYLVANIA,  
NEW YORK CITY, DECEMBER 6-10.

ALPHA OMEGA FRATERNITY, 30TH ANNUAL INTERNATIONAL CONVENTION,  
CONGRESS HOTEL, CHICAGO, DEC. 29-31.

AMERICAN DENTAL SOCIETY OF EUROPE, STOCKHOLM, SWEDEN, AUGUST 1-3, 1938  
K. C. CAMPBELL, SEC'Y, 88 PORTLAND PLACE, LONDON, W. 1.

AMERICAN DENTAL ASSOCIATION, ST. LOUIS, MO., OCTOBER 24-28, 1938.



## ... SECTION FRANÇAISE ...

Rédacteur.

ALCIDE THIBAudeau, D.D.S., A.I.D.O.,  
Professeur à l'Université de Montréal  
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### COMITE DE REDACTION

Gérard Baillargeon, D.D.S.  
Paul Geoffrion, D.D.S., A.I.D.O.  
P. E. Lussier, D.D.S.  
P-E. Poitras, D.D.S.

Gérard de Montigny, D.D.S.  
Yves Lafleur, D.D.S.  
A. D. Milot, D.D.S.  
Jules Tétreault, D.D.S.

### REDACTEURS-CORRESPONDANTS

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JULES THEBAUD, D.D.S.,  
Doyen de l'Ecole Dentaire  
Port-au-Prince, Haïti.

## Eléments d'Anatomie Dentaire Philosophique

par GASTON GUERARD

Docteur ès-Sciences Naturelles U.P.

Professeur d'Anatomie Dentaire Humaine et Comparée à l'Ecole Odontotechnique de Paris.  
Vice-Président de la Section d'Anatomie au VIII Congrès Dentaire International.

(Extrait de la "Revue Odontologique".) Deuxième partie (suite).

L'ARCHAEOPTERYX apparaît le premier au jurassique moyen, il est d'ailleurs proposé par les transformistes comme une forme de passage (quoiqu'il fût assez difficile d'admettre qu'un reptile ait pu acquérir graduellement des caractères nouveaux aussi importants que la locomotion et la calorification). En tout cas, intermédiaire ou non, cet animal présente une denture reptilienne formée de dents coniques, implantées dans des alvéoles, on en connaît treize de chaque côté de la mâchoire supérieure et trois à la mâchoire inférieure. Plus tard, à la

fin du Crétacé des groupes assez nombreux vont exister côté à côté. Certains de leurs représentants seront remarquables par la présence de dents nombreuses, *Hesperornis* en montre quatorze en haut et trente-trois en bas de chaque côté, aiguës et recourbées, ces dents sont insérées par une forte racine dans des alvéoles creusés dans une rigole commune. Chez *Ichthyornis* les dents coniques sont logées dans des alvéoles sur des mâchoires très développées. . . A côté vivent des groupes totalement dépourvus de dents. . . Ou des formes

aberrantes telles que l'*Odontopteryx*, remarquable par la présence aux deux mâchoires d'épines osseuses, que nous ne devons pas confondre avec de vrais dents bien qu'elles eussent le même rôle physiologique. Bref, nous voyons dès leur apparition les Oiseaux nous montrer des armatures buccales de formes très différentes, il existe ou non des organes dentaires et ceux-ci n'offrent aucun progrès sur la dent reptilienne.

*Mammifères.*—Avec l'étude des Mammifères mésozoïques nous voici parvenus à l'un des points culminants de nos recherches. Pour Osborn et les transformistes en effet, ces êtres d'organisation nouvelle ne seraient autre chose que les ancêtres de tous les Mammifères et les descendants des Reptiles Thériodontes. et la preuve en serait fournie par les ressemblances dans la dentition. Que nous faut-il penser de cette affirmation? Deux faits sont incontestablement exacts, la denture de *Dromatherium*, le plus ancien Mammifère connu, est effectivement semblable à celle des Thériodontes, et nous la voyons se compliquer graduellement chez les Mammifères mésozoïques, selon les lois indiquées par Osborn, c'est-à-dire qu'au type primitif *haplodontie* vont succéder les formes *triconodontes*, *trituberculées* et *multituberculées*. Tout cela est vrai, mais tout cela doit-il nécessairement signifier une descendance, et le groupe des Reptiles doit-il être considéré comme étant la souche des Mammifères à cause de cette simple ressemblance morphologique et l'évolution constatée dans les formes primitives? Cette conclusion à laquelle se rallient bon nombre d'auteurs est cependant fort risquée, et pour plusieurs raisons. D'abord et étant donné que les *Théromorphes* vivent pendant le Permien et le Trias il est bien difficile d'admettre cette

transformation presque spontanée d'un Reptile en Mammifère alors que les plus légères modifications morphologiques sont si lentes à se produire. Ensuite la liaison *Thériodonte-Mammifère* aussi bien que l'enchaînement Mammifère mésozoïque et Placentaire ne sont pas du tout manifestes. En ce qui regarde le premier de ces passages nous ne possédons presque en effet que des dents isolées ou des mâchoires inférieures, c'est-à-dire des restes bien incomplets pour remplir la formidable distance qui sépare Reptiles et Mammifères; quant au second enchaînement les formes intermédiaires manquent trop souvent pour autoriser l'opinion transformiste. N'avons-nous pas plutôt affaire à une branche spécialisée, qui s'est d'ailleurs éteinte sans descendants au début de l'Eocène? (1) Les petits Mammifères mésozoïques apparaissent en effet comme formant un groupe isolé, spontanément apparu et disparu au cours d'une évolution propre, la ressemblance de leurs dents avec les mêmes organes chez certains Reptiles n'a donc aucune valeur philosophique, une même fonction a créé chez des êtres différents des organes semblables, et c'est tout. Nous ne réunissons pas des groupes d'animaux uniquement d'après la similitude de leurs griffes, la ressemblance morphologique des dents ne prouve pas davantage une parenté, dans une étude antérieure je l'ai déjà démontré (2), et lorsque nous parlons de *forme* nous ne devons pas oublier qu'en biologie celle-ci est toujours considérée comme fonction de l'organisation à laquelle se rattache. Par conséquent une ressemblance limitée à la configuration extérieure, à l'aspect, au volume, à l'emplacement, ne doit pas être considérée comme scientifique, la morphologie vraie devant s'appliquer surtout à

(1) Ces animaux sont d'ailleurs différenciés par leur régime en Carnivores Herbivores, Omnivores et Insectivores.

(2) *Semaine Dentaire*, 1932.

rechercher tout ce qui conditionne la forme. Or, les organes que nous venons de rapprocher occupent bien une même région à l'orifice des voies digestives, ils ont une même apparence, sans doute les corrélations avec les autres organes durent-elles avoir des similitudes dans les deux groupes, en un mot, il y a bien *homologie*, mais cela ne veut pas dire enfin liaison héréditaire, car en aucun cas nous n'avons le droit de mélanger la *forme* et l'*organisation* en vue d'une interprétation phylétique.

Quelle impression allons-nous maintenant dégager de cet examen rapide des dentures à travers les temps secondaires? Tout de suite nous écarterons l'idée d'une *évolution progressive*, elle serait au contraire plutôt régressive, le type simple est en effet le plus fréquent et les complications se font moins importantes. Il n'y a pas non plus concordance entre l'évolution générale des espèces et l'évolution particulière du système dentaire, et des animaux qui se sont considérablement perfectionnés en organisation font voir des dents du type le plus archaïque. En outre le monophyodontisme va succéder sans transition au polyphyodontisme, la forme diphodont ne devant se montrer que plus tard. Une fois de plus nous voici donc en face d'une *discontinuité* qui nous prépare de moins en moins à l'idée d'une liaison continue qui réunirait les dentures de tous les grands groupes animaux. Voyons cependant ce que nous réserve la faune si intéressante des jours Tertiaires.

### III. Ere tertiaire

Un monde transformé, une faune plus élevée en organisation, et nous allons découvrir en même temps des types dentaires nouveaux. C'est qu'en effet nous voici parvenus à l'épanouissement brusque du groupe des Mammifères suivant le mode de floraison soudaine auquel nous avons assisté tout au long de l'évolution des Vertébrés. Une fois de

plus il paraît donc par avance bien difficile d'espérer rencontrer des transitions d'une denture à l'autre parmi les différenciations rapides et définitives qui vont nous être présentées.

Avec les Mammifères de l'Eocène nous rencontrons sans conteste un type d'organisation nouveau (sans doute déjà ancien avec *Dromatherium* mais auquel on doit donner plutôt l'âge des Oiseaux), à présent, en effet, la différenciation est complète et les spécialisations sont bien marquées. Presque toujours les dents seront maintenant localisées sur les maxillaires, les prémaxillaires et les mandibulaires; les racines simples, bifides ou trifurquées vont être implantées dans des alvéoles. Les couronnes seront différenciées en incisives, canines, etc., et il existera, en général, deux dentitions successives. On accepte, et l'examen paléontologique le prouve, que la formule dentaire primitive des Mammifères placentaires était de quarante-quatre dents et qu'elle a donné naissance aux divers types qui composent la classe toute entière. Ces types différemment spécialisés, seront d'ailleurs classés d'après l'examen comparatif des dents en *Insectivores*, *Carnivores*, *Cétacés*, *Edentés*, *Rongeurs*, *Ongulés* et *Primates*, ces quelques groupes composant les principaux ordres. Beaucoup d'entre les Mammifères de l'Eocène inférieur ont sans doute, ajoutons-le, d'étroites analogies entre eux, alors que d'autres, au contraire, sont de suite complètement séparés; mais les uns et les autres, ne l'oublions pas, "servent de souche à presque tous les ordres de Mammifères actuels si nettement distincts", et l'on peut dire que cette division est achevée dès l'Eocène et qu'à partir de l'Oligocène il ne se différenciera plus que des familles.

Or, si nous observons le type dentaire *spécifique* des Mammifères nous pourrions dire qu'il débute au Trias avec *Dro-*

*matherium* et qu'il se termine avec l'Homme, mais cette différenciation *spécifique* n'a pas la valeur d'un *type* dentaire d'*organisation*. L'évolution des dentures chez les Mammifères n'est en effet que la succession des changements de formes qui la composent, sans que nous puissions noter de continuité (les formes les plus compliquées et les plus puissantes seront d'ailleurs parfois les premières). . . Il n'y a donc pas une *évolution des dentures* chez les Mammifères, mais des *évolutions partielles, diversement distribuées* et qui nous mettent dans l'impossibilité d'établir une évolution régulière et continue.

#### IV. Ère quaternaire

Déjà nous avons pu observer qu'à chaque grande période géologique *dominaient* des groupes animaux différents, de telle sorte que chaque classe occupe tour à tour une place prépondérante dans l'histoire du monde. Dès le *Dévonien* nous avons vu en effet la maîtrise des mers appartenir à des formes de Poissons extrêmement puissantes, dans les temps *Secondaires*, ceux-ci laissent la place aux grands Amphibiens et aux Reptiles gigantesques, les Oiseaux sont du *crétacé* et les Mammifères s'imposent tout au long des âges *Tertiaires*. Et nous parvenons ainsi au *quaternaire* qui va nous montrer à son tour une nouvelle forme dominante: l'*Homo sapiens*. En un mot, nous observons dans le développement des êtres vivants une succession de faunes qui se substituent les unes aux autres sans se continuer, ce que nous montrent d'ailleurs les vestiges isolés de ces êtres archaïques: *dents* et *maxillaires*, impossibles à sérier tant sont variables et discontinues les modalités qui les caractérisent. D'où viennent ces dentures, nous demandera-t-on, puisqu'elles ne continuent pas celles qui les précèdent? Elles viennent de plus loin, pensons-nous, et d'une source différente. L'étude des types d'organisation nous

montre en effet dès les premières couches fossilifères des classes bien distinctes, (avant la fin de l'ère primaire les Vertébrés ne se partagent-ils pas déjà en Poissons et Quadrupèdes?). Et cette précocité dans la formation des classes est d'ailleurs mise en évidence par les dents et la mandibule de *Dromatherium*, mammifère *triasique*, alors que nous voyons les types spécifiques de cette classe se continuer sans arrêt jusqu'à l'homme.

Bref, parvenus à l'époque *quaternaire* nous voici donc en face d'un type morphologique nouveau: l'*Homme*, et de même que l'apparition de chaque nouveau type de la faune vertébrée nous est en général annoncée par des *mâchoires* et des *dents*, c'est encore une mandibule qui va nous signaler l'homme primitif, celle de Mauer dont on a fait l'espèce *Homo heidelbergensis*; elle est sans doute pareille à celle d'un anthropomorphe, mais les dents en sont complètement humaines, ce qui a fait dire que "l'homme actuel avait acquis son système dentaire avant sa mandibule", dents plus broyeuses que coupantes et liées au régime végétarien. D'autres témoins archaïques viennent également s'ajouter à la mandibule de Mauer (*Homme de Piltown*, d'Ebringsdorf, l'*Homme de Néanderthal*, le crâne de *Broken Hill*, etc.) Tous ces débris enfin nous apportent la preuve qu'à l'extinction du *Tertiaire* plusieurs races humaines étaient déjà individualisées, nous montrant ainsi l'antique spécialisation du type *homo*. "Quelle est à présent l'*origine paléontologique* de cette forme nouvelle? Nous allons, sinon répondre à cet obscur problème, du moins mettre en évidence la contribution du *système dentaire* à la phylogénie d'*Homo sapiens*.

Peu de recherches sont aussi embrouillées que celles qui s'occupent des *origines de l'homme*. De nombreuses généalogies nous sont proposées, des progéniteurs variés nous sont révélés,



mais chaque hypothèse tout en s'appuyant sur des considérations phylogénétiques le plus souvent ingénieuses, demeure toujours confuse et peu probante. C'est pourquoi, laissant de côté une vague généalogie Lémurienne qui nous conduirait des Tarsiens aux Marsupiaux, nous jugeons prudent de borner nos recherches sur les "*Origines paléontologiques de l'Homme*" à la théorie des auteurs qui donnent pour formes ancestrales à notre denture celle du *Pithécanthrope*, ou même les mandibules et les dents de *Propliopithecus* ou de *Parapithecus*, proposés par quelques-uns comme des formes de transitions.

Avant toute discussion, nous croyons nécessaire de rappeler en deux mots la morphologie des débris considérés par quelques-uns comme des formes de passage. D'abord le *Pithécanthrope*. Tout de suite nous l'écartérons de la lignée humaine par défaut de documentation. Que possédons-nous en effet? Une calotte crânienne, un fémur et deux-dents; sans doute, ces échantillons appartiennent-ils aux trois portions du corps humain les plus précieuses pour une reconstitution, mais ils sont trop restreints pour servir à l'établissement d'un être tout entier. Quant aux dents, il s'agit uniquement de deux molaires, la première molaire supérieure gauche et la troisième supérieure droite. La première de ces dents est usée, la seconde à peu près normale... Mais si nous cherchons dans la description minutieuse de ces dents par le Docteur Amoedo un caractère vraiment typique et intéressant, nous ne trouverons rien qui pût permettre de tirer une conclusion; j'estime donc cette documentation dentaire absolument insuffisante pour une recherche phylogénétique, et la mets de côté.

Quant à *Proplio* et *Parapithecus*, ils nous ont laissé des fossiles beaucoup plus intéressants. Découverts dans l'*Oligocène* du Fayoum en Egypte, en 1910, il

s'agit de débris de mandibules plus ou moins complètes et qui nous révèlent l'existence de *Primates* plus élevés en organisation que les formes à venir. Sergi, prenant en considération le caractère presque humain de la symphyse mandibulaire, croit même reconnaître dans *Propliopithecus* un progéniteur du type humain dont la descendance aurait disparu, pour Gregory, il serait à la fois le progéniteur des Anthropomorphes et de l'Homme.

Ces généalogies ne sont en vérité que d'incertaines hypothèses, car ici encore la documentation est malgré tout bien insuffisante, en tout cas il nous paraît fort difficile, en examinant avec attention les planches de Grégory, d'émettre une opinion ferme. Mais il est cependant un fait d'une importance énorme dans la généalogie de l'homme, c'est qu'une denture presque humaine a existé avant la denture des anthropomorphes qui sont proposés pour nos précurseurs.

Evidemment, et même pour cette dernière conclusion, nous possédons peu de choses, puisque les débris du Fayoum se réduisent en réalité à un simple fragment de mandibule pourvu de dents, mais chez *Propliopithecus* plus encore que chez *Parapithecus* nous trouvons une analogie réelle avec la denture humaine, la canine et la première prémolaire qui se distinguent chez les Anthropomorphes par de plus grandes dimensions sont ici très réduites et le prognathisme dut être peu accentué. *Pliopithecus antiquus* qui ne se montre qu'au Miocène ou au Pliocène inférieur, c'est-à-dire postérieurement aux précédents, montre au contraire une canine très fortement développée et une denture nettement anthropomorphe.

De ces faits, que conclure enfin, sinon que la denture de l'homme s'est bien présentée spontanément et que le facteur mécanique (dont l'importance est acquise quant aux modifications secondaires apportées à la forme initiale et caracté-

ristique), est par contre difficile à invoquer pour la formation d'un type nouveau par transformation. Ou bien alors, je poserais cette question: "Pourquoi, chez certaines peuplades demeurées primitives, qui vivent comme des animaux et dont le régime est essentiellement *carnivore*, pourquoi la canine a-t-elle diminué de volume, alors qu'elle fonctionne autant et même davantage que chez l'anthropoïde dont ces races auraient soi-disant recueilli la denture?" Et quant je parle d'*humains carnassiers*, je n'exagère pas. Dans une étude assez récente sur la pyorrhée, le Docteur Pitsch cite les paroles d'Edouard Foa qui chassait en Afrique pour compléter les collections du Muséum: "Qui n'a pas, écrit ce dernier vu un nègre manger de la viande, ne peut se douter ce qu'un estomac humain peut contenir". Or, ajoute le Docteur Pitsch, cette viande est dure, qu'elle soit ingérée crue, ou cuite rapidement après l'abatage, à cause de la chaleur, ou même boucanée et, dans tous les cas, elle exige une *mastication énergique*... ces primitifs, nous dit plus loin l'auteur, sont très vigoureux, ce sont des athlètes complets qui vivent nus dans la lumière". Pourquoi, ajouterons-nous, à notre tour, ces êtres demeurés si proches de l'animalité ont-ils perdu la puissante canine des Anthropoïdes, ou l'ayant perdue, pourquoi ne se développe-t-elle pas davantage si les Lois de la *Théorie mécaniste* étaient vraies?

En ce qui nous concerne, et après ce que nous venons d'apprendre, nous comprendrons qu'il en fût ainsi, parce que nous avons affaire à une denture formée d'un seul coup et d'emblée définitive dans ses caractères essentiels, denture particulière au stype hominien et qui ne saurait subir d'autres changements que des modifications accessoires dans sa structure première. Sans quoi, et étant donné le cosmopolitisme humain, nous aurions de nombreuses variétés dans les dentures, et

les organes préhistoriques ne seraient pas aussi semblables aux dents contemporaines.

Alors pourquoi les ressemblances si frappantes (!!!) dira-t-on, entre les dents de l'Homme et de l'Anthropoïde? Je l'ai répété souvent, c'est qu'une même organisation ayant présidé à l'arrangement de la dent, nous nous expliquons facilement entre groupes voisins les ressemblances et les rapprochements, voire même les exigences de la *loi biogénétique fondamentale*. Sans être partisan d'une harmonie pré-établie, comme je l'ai par ailleurs expliqué déjà, je crois au "filtre" qui à l'origine des *classes* et des *ordres* a laissé passer les seuls organes susceptibles par leur forme et une *mutuelle corrélation* d'entrer dans les *associations biologiques* contemporaines de leur apparition, en un mot c'est l'organe qui a décidé de l'avenir!

Contrairement à ma prétention d'isoler la denture humaine c'est-à-dire de séparer une denture primate des autres dentures primates, on m'a opposé l'exemple classique des molaires du Cheval: partant d'*Eohippus* de l'*Eocène inférieur*, c'est-à-dire des débuts de l'apparition des mammifères pour atteindre *Equus caballus* de l'époque actuelle, on observe en effet que les tubercules des molaires marquent une tendance à se fusionner et à s'aligner en crêtes, montrant ainsi la possibilité des transformations. Mais, en outre que cette observation ne constitue pas une réponse à la question concernant l'immobilité de la denture humaine malgré les temps et les régimes, l'exemple du Cheval n'explique pas non plus pourquoi des dents qui ne travaillent pas et même sont nuisibles continuent parfois à se développer exagérément, et puis cet exemple classique se passe à l'intérieur d'une famille seulement, sans toucher à un groupe voisin.

Enfin comment admettre une fois de plus qu'il eût fallu toute la durée des

temps Tertiaire et Quaternaire pour fusionner les tubercules d'une molaire, alors que des modifications aussi importantes que celles qui séparent la denture de l'Homme de celle des Anthropomorphes se seraient effectuées presque spontanément?

Qu'il s'agisse enfin de passer en remontant de l'Homme au Singe ou du Singe aux animaux qui l'ont précédé, il nous est matériellement impossible d'admettre une denture qui se serait successivement transformée à travers les espèces. Cette conclusion n'a pas, bien entendu, la prétention de solutionner le problème des origines de l'Homme, mais nous l'envisagerons uniquement comme une contribution qui ne saurait être négligée en une telle controverse; elle nous montre en effet que si l'Homme est organisé comme un mammifère et comme un Primate, cette organisation lui est propre, indépendante et *achevée dès qu'il apparaît*, il est un rameau séparé de l'ordre des Primates, il n'est pas le descendant d'un Primate inférieur! Nous ne saurions enfin terminer ce rapide aperçu sur l'évolution des dentures à l'époque quaternaire sans remarquer combien sont insignifiants les types dentaires que nous allons rencontrer à côté de ceux qui les ont précédés, nous apercevant une fois de plus quelle serait notre erreur d'imaginer un développement continu dont chaque étape serait la complication d'une autre plus simple. Pour réaliser les complexes si variés qui devaient assurer la vie de l'espèce, la Nature a chaque fois et dès le début procuré la forme adaptée, perfectionnée et assez puissante pour s'accorder avec les exigences de l'organisme tout entier. Sans changer le type, toujours combiné sur un modèle unique, elle a su faire des dentures préhensibles, des organes d'attaques, créer des appareils mastica-

toires de différentes formes selon les régimes.

Contrairement à cette opinion, Osborn et les classiques ont démontré que la dent des Vertébrés avait au contraire évolué au moyen d'un processus régulier à partir de la dent simple et conique des formes les plus archaïques jusqu'à la dent des Mammifères les mieux organisés. Pour certains auteurs en accord avec le *lamarckisme*, cette transformation du système dentaire à travers les époques géologiques serait d'ailleurs uniquement due au fonctionnement de l'organe. Dans mes précédentes études je crois avoir par contre prouvé:

1° Que la théorie d'Osborn était fausse;

2° Que si le lamarckisme répond en cette occasion aux exigences de la morphologie et de la systématique, il est par contre totalement impuissant à expliquer la genèse des différentes dentures.

Tout d'abord, la théorie d'Osborn sur quoi s'appuient toutes les conceptions classiques, est purement imaginative et en complet désaccord avec les réalités (en dehors bien entendu du petit groupe des Mammifères mésozoïques) et il est aisé de le démontrer. Les séries invoquées en faveur de la transformation des organes dentaires au moyen de la théorie d'Osborn (1) et tirées de l'examen morphologique des dents des Vertébrés, ont pu parfois être en effet confirmées par la paléontologie, mais *jamais* elles ne nous ont fourni de sériations continues montrant le passage indiscutable des formes principales les unes aux autres. Nous possédons des séries partielles, à l'intérieur desquelles des gradations peuvent être observées et interprétées généalogiquement, mais ces séries se montrent tout à fait *distinctes* et *discontinues* si nous voulons les réunir par des liaisons anatomiques. En un mot, il n'y a de transitions qu'à l'intérieur des *familles*

(1) Le type conique et simple se transforme graduellement par l'adjonction de talons et tubercules.

et c'est tout.

Les séries, hors ce cadre restreint, sont donc, contrairement à la conception d'Osborn, purement artificielles et en voici un exemple parmi une grande quantité d'autres: Cuvier se basant sur la denture a présenté l'arrangement suivant pour un même groupe: chats, hyènes, martres, chiens, civettes, ours. Or, *cette série excessivement bien construite au point de vue dentaire, est totalement inexacte au point de vue paléontologique et généalogique*. Suivre une sériation aussi artificielle serait donc confondre le développement des dents avec le développement paléontologique, ce à quoi sont arrivés les auteurs qui ont suivi Osborn.

L'appareil dentaire présente en effet une grande quantité de formes très variables, il est donc facile d'y trouver les éléments d'une sériation quelconque, mais à y regarder de près, elles n'ont aucune valeur généalogique. Et cela est si vrai que si nous prenions d'autres organes que les dents, nous serions conduits à autant de séries différentes, *le développement d'un appareil, fût-ce l'appareil dentaire, c'est-à-dire l'un des plus caractéristiques pour la détermination des espèces, ne doit donc pas être confondu avec le développement phylogénétique*.

Des papilles cutanées, en effet, se sont formées en même temps que les types d'organisation, elles ont fourni là des écailles et des dents placoides, ici des organes préhensibles, de broiement ou de combat, et chez les vertébrés les plus élevés elles ont donné, en se coordonnant, des organes masticateurs. L'origine embryologique est la même, l'unité biologique qui réunit toutes les dentures a nécessité des ressemblances, mais elles ne proviennent pas les unes des autres, j'en ai par ailleurs largement fait voir l'impossibilité. Toutes les formes diverses

sont évidemment susceptibles de modifications à cause même du rôle qu'elles ont à remplir, mais il fallait cependant à chacune un degré de perfectionnement d'emblée suffisant, c'est-à-dire *un minimum de préadaptation* (1).

Dans l'impossibilité enfin de donner satisfaction à Osborn au moyen d'exemples concrets, on pourrait, semble-t-il, lui accorder au moins que les formes les plus compliquées pussent dériver des plus simples, mais pour ma part je n'accepte même pas cette concession, pour avoir trop souvent observé que les rapprochements peuvent s'expliquer par tout autre chose qu'une répétition ancestrale.

Je passe à présent à la critique la plus impressionnante, celle qui m'a été opposée en vertu des principes de Lamarck. Le Docteur Weidenreich, qui a consacré une étude longue et savante à l'évolution des dentures et au lamarckisme, a bien voulu me communiquer les textes de quelques-uns de ces nombreux travaux, nos conclusions n'étant pas les mêmes, malgré plusieurs attaches communes, je me dois d'expliquer pourquoi le lamarckisme ne m'a pas pleinement convaincu dans le domaine qui nous intéresse.

Mon éminent contradicteur de Francfort a certainement pensé que la nature des types d'organisation ne devait pas s'exprimer seulement dans leur anatomie, mais aussi dans leur *histologie*, et il défend une évolution qui nous est montrée par l'anatomie microscopique. Loin de contredire cette prétention, je reconnais de mon côté qu'il y a bien une liaison *morphologique* et *histologique* entre les dentures des vertébrés et par conséquent j'admets aussi une *évolution générale*. Il y a, en effet, évidemment une évolution obligatoire puisqu'il s'agit d'un même organe et d'une même fonction, mais où nous ne parlons plus le même langage,

(1) Voir la *Préadaptation de l'organe dentaire* (G. Guérard), *Revue Odontologique*, juillet-août 1931.



c'est lorsque nous touchons aux *origines*. Ni les liaisons constatées, ni l'évolution reconnue ne peuvent prouver en effet qu'il y eut *descendance* entre les por-

à suivre

teurs, pour cette raison qui domine toutes les autres que le *développement général des dentures ne s'accorde pas avec l'évolution généalogique*.

## Conservons Cette Dent !

**D**E quelle dent s'agit-il d'abord ? Nous voulons parler de la molaire de six ans, la première dent permanente. La molaire de six ans est le rouage le plus important du mécanisme dentaire, la clé de voûte de l'arcade dentaire. Sa perte entraîne des perturbations considérables de l'appareil masticatoire. Les spécialistes en orthodontie d'appuyer sur l'importance de la première molaire permanente et de sa présence dans la bouche pour pouvoir mener à bonne fin leur travail de redressement des dents.

Faisons un petit examen de conscience et voyons si nous avons toujours fait tout notre possible pour assurer la rétention dans la bouche de nos jeunes clients d'une dent aussi importante. On juge un arbre à ses fruits. Demandons-nous combien de parents ignorent encore que cette molaire de six ans est une dent permanente. Constatons en même temps qu'environ 65 à 75% des enfants perdent leurs premières dents permanentes entre l'âge de six à douze ans, c'est-à-dire très souvent avant l'éruption de la molaire de douze, ou seconde molaire permanente.

Nous n'aurons aucune difficulté à constater que nous n'avons pas fait notre possible dans le domaine de la dentisterie préventive. Nous sommes les seuls à blâmer. Après avoir pris connaissance de nos lacunes dans ce domaine et pour nous convaincre davantage de la nécessité de travailler à conserver le plus grand nombre de molaires de six ans le plus longtemps possible étudions un peu les résultats splendides qu'on peut obtenir

en appliquant des méthodes rationnelles de dentisterie préventive.

Voici quelques statistiques qui comportent une leçon concrète: ils sont tirés du rapport annuel du Forsyth Dental Infirmary for Children, de Boston, Mass.

En 1915, à Forsyth, on enlevait une molaire de six ans par trois (3) dents enlevées.

En 1918, 1 pour ou sur 5.

En 1924, 1 sur 200.

Autres statistiques:

82% des enfants des 8ème et 9ème cours qui ont reçu un traitement dentaire dans les premières années de classe, c.à.d. les 1er, 2ème et 3ème cours, ont leurs quatre molaires de six ans.

11% ont perdu une molaire (1), soit à cause d'éruption prématurée, soit à cause d'un traitement tardif.

Il est possible de conserver 93% des 1ères molaires si on les traite à bonne heure.

Mettons-nous donc, tous tant que nous sommes, résolument à l'oeuvre. Nos clients ont confiance en nous. Travaillons donc de toutes nos forces afin d'accomplir pour eux ce qu'ils sont en droit d'attendre de nous; leur éducation dentaire, d'abord; ensuite la prévention de la carie et la réparation de leurs dents malades, afin d'assurer leur conservation; traitement dès le bas âge des dents des enfants. Nous serons amplement récompensés de nos efforts, tant au point de vue professionnel qu'au point de vue rémunérations pécuniaires.

Yves Lafleur.

84 Mondor—St Hyacinthe.

# Dents Infectées et Pression Artérielle

par GERARD DE MONTIGNY, B.A., D.D.S., M.S.D.

**EXISTE-T-IL** une relation directe entre les infections dentaires ou les sacs pyorrhéiques et l'élévation exagérée de la pression artérielle? Cette question est bien débattue chez les médecins et les dentistes. Nous avons cru jeter quelque lumière sur le problème, en faisant une revue de la littérature américaine traitant cet aspect des relations médicales et dentaires.

Dans "Manifestations of Focal Infections in the Respiratory, Circulatory, Urinary and Gastro-Intestinal Systems in Infancy and Childhood," publié dans le "Minnesota Medicine," le Docteur Rodda <sup>(1)</sup> écrit: "Les maladies du coeur chez les enfants sont, sans l'ombre d'un doute, une répercussion de foyers infectieux." Il ajoute plus loin: "Les caries et les abcès dentaires peuvent fort bien être la cause de troubles vaso-moteurs."

L. Napoléon Boston <sup>(2)</sup> dans son communiqué intitulé "Blood Pressure Above 200 Mm., A Symptom of Focal Infection," donne des statistiques compilées chez 303 patients, qui furent tous soumis à un examen dentaire. Une amélioration marquée dans le niveau de la pression sanguine fut observée après l'élimination de dents infectées.

Dans "Arterial Hypertension," par Edward J. Stieglitis <sup>(3)</sup> nous lisons: "Des foyers d'infection chronique peuvent causer une irritation vasculaire, soit par la dissémination des bactéries elles-mêmes ou par un rayonnement des toxines dans la circulation."

"L'importance étiologique des foyers infectieux ne peut être exagérée; chez un groupe de 110 patients souffrant d'hypertension, artérielle et dont l'histoire fut étudiée avec soin pour déterminer les causes de cette élévation de pression, il fut noté que 83% des cas observés

décelaient des foyers infectieux. Il ne faut cependant pas conclure que toute hypertension est causée par une infection, mais que sa présence est une menace et une source possible de troubles vasculaires."

Dans ce même ouvrage, nous voyons que "l'infection est peut-être le plus significatif des facteurs initiaux de l'hypertension vasculaire; de là, leur localisation est très importante. Non seulement les infections généralisées, comme la fièvre typhoïde et la diphtérie jouent un rôle assez considérable dans les perturbations circulatoires, mais aussi les foyers mineurs d'infection locale ne doivent pas être négligés, précisément à cause de leur existence paisible et prolongée dans l'organisme. La présence assez fréquente de ces foyers infectieux chez les sujets souffrant de pression artérielle exagérée n'est pas une simple coïncidence. Une recherche approfondie de ces foyers et leur prompt élimination est une des directions que doit prendre une thérapeutique rationnelle. Les dents dévitalisées, indolores par l'absence même de "nerf" et douteuses par leur dévitalisation, devraient toujours être soumises à un examen radiologique; il vaut mieux considérer ces dents comme susceptibles d'infection jusqu'à preuve du contraire. Trop souvent, hélas, les dommages sont produits durant des périodes d'hésitation et de tolérance. Il faut cependant explorer l'extraction en masse de toutes les dents dévitalisées, mais un diagnostic positif au moyen des rayons-X justifie une telle mesure, puisque tout tissu mort ne peut se régénérer lui-même. Aussi importantes, mais d'une fréquence moins grande, sont les infections amygdaliennes et celles des sinus adjacents du nez."

Dans "Blood Pressure, its Clinical Applications" <sup>(4)</sup> les auteurs dissertent ainsi: "La vogue présente, souvent justifiée, d'attribuer la plupart des maladies à des foyers septiques a, comme on peut bien le penser, été amenée de l'avant pour expliquer l'hypertension. Jusqu'à présent, il nous semble qu'aucune justification expérimentale ait été fournie pour soutenir une telle assertion. Il ne semble pas y avoir d'autre relation entre les foyers infectieux et l'hypertension que celle qui existe indirectement entre celle-ci et les néphrites ou les irritations rénales; on ne connaît pas encore de protéines microbiennes susceptibles de provoquer une augmentation de pression. Il faut cependant éliminer tous les foyers d'infection en autant qu'ils peuvent occasionner ou aggraver une néphrite, quoiqu'il n'existe pas d'évidence expérimentale ou clinique que ces foyers puissent causer directement et "per se" une élévation de la pression sanguine. Il découle d'une observation de 400 cas d'hypertension que les patients ayant souffert de scarlatine, de fièvre typhoïde, d'infection buccale et d'arthrite ne pré-

sentaient pas des symptômes plus marqués d'élévation de pression artérielle que les autres patients; et les personnes ayant contracté la syphilis et la diphtérie paraissent moins sujettes à l'hypertension artérielle que les autres individus."

Comme on peut le voir, tous les auteurs cités plus haut sont unanimes à dire qu'il faut procéder à l'élimination des foyers infectieux d'origine dentaire dans les affections de pression artérielle élevée; cependant les uns nient un rôle direct et positif aux bactéries des dents dans l'étiologie de l'hypertension.

397 est Bd St-Joseph, Montréal.

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## Revue des Revues

par GERARD de MONTIGNY, B.A., D.D.S., M.S.D.

"LES CHANGEMENTS, QUI S'OPERENT DANS LA MEMBRANE PERIDENTAIRE SOUS L'EFFET DE PRESSIONS OCCLUSALES," par G. R. Lundquist, M.S., D.D.S., Chicago.

L'auteur illustre bien clairement les modifications qui se produisent dans le tissu conjonctif de la membrane péri-dentaire et dans les cellules osseuses adjacentes à cette membrane quand une pression directe est appliquée sur une dent. Une resorption osseuse est toujours remarquée du côté, où l'effort est

produit et cette décalcification est compensée du côté opposé par une prolifération calcique des cellules osseuses. (Journal of the American Dental Association, livraison d'octobre 1937.)

"L'APPORT DU RADIUM ET LES RAYONS-X DANS LE TRAITEMENT DES TUMEURS MALIGNES DE LA CAVITE BUCCALE," par Harold Salomon, D.D.S., and Melvin C. Reinhard, M.A., Buffalo, N.Y.

1) Le radium a trois variétés de rayons: alpha, beta, gamma. Les pre-

miers n'ont aucune propriété thérapeutique; les seconds sont employées dans à peu près cinq pour cent des traitements généraux; les troisièmes servent dans la majorité des cas; des filtres sont employés pour éliminer les genres de rayons qu'on ne veut pas avoir.

2) Avant d'entreprendre le traitement il faut étudier tous les facteurs anatomiques, histologiques et physiologiques.

3) Les traitements au radium peuvent se faire de trois façons différentes; 1) en surface; 2) d'une façon interstitielle; 3) à distance.

4) Les rayons-X sont plus universellement employés à cause de la rareté du radium; ils sont faciles d'emploi et se prêtent admirablement bien au traitement des régions lymphatiques.

5) Le dosage, la durée d'application et le nombre des applications sont très importants dans toutes les formes de traitements à l'aide de radiations. (Journal of the American Dental Association, livraison du mois d'octobre 1937.)

"LE CONTROLE CLINIQUE DES CARIES DENTAIRES CHEZ LES ENFANTS," par I. Newman Kugelmass, M.D., Ph.D., Sc.D., New York.

Le contrôle rationnel de la carie dentaire chez les enfants est plutôt du domaine préventif que du domaine curatif; c'est pourquoi les services du dentiste, et des spécialistes en pédiatrie ou en obstétrique doivent être réunis dès la conception de l'enfant dans le sein de la mère pour prévoir la bonne formation de ses dents et de leur maintien en bon état. Il y a tellement de facteurs—constitutionnels, endocriniens, métaboliques, nutritifs, locaux, qui entrent dans l'étiologie de la carie dentaire que sa prévention entre dans toutes les branches scientifiques qui envisagent l'organisme humain. L'auteur essaie ici de mettre en lumière quelques-unes des plus importants facteurs qui influencent une bonne den-

tition. (The New York Journal of Dentistry, octobre 1937.)

"L'ETAT DE LA SALIVE DANS LE VESTIBULE DE LA BOUCHE ET DANS LA BOUCHE ELLE-MEME," par Harold Keith Box, D.D.S., Ph.D., F.R.M.S., Toronto.

Il existe dans la cavité buccale des systèmes glandulaires, qui secrètent la salive, dont la plus importante fonction est la digestion des hydrates de carbone.

On s'est toujours intéressé au pH de la salive, pour expliquer son rôle dans le problème de la carie dentaire; ainsi des chercheurs ont analysé tour à tour les salives parotides, sub-linguales et sous-maxillaires pour en connaître le pourcentage d'alcalinité ou d'acidité.

Ici l'auteur, avec toute l'autorité qu'on lui connaît, soulève une question intéressante, à savoir si la salive est du même pH dans toutes les régions de la bouche, aussi bien dans le vestibule que dans la cavité buccale elle-même et près de l'orifice des canaux salivaires; car on sait que la salive venant de la glande parotide est plus acide que les salives venant des glandes sous-maxillaires et sub-linguales. Les statistiques soumises par le Docteur Box diffèrent assez de celles qui ont été amenées sur les mêmes données. (Oral Health, septembre 1937.).

"PREVENTION DES DOULEURS POST-OPERATOIRES," par Dr Franz Wilhelm Stupm, San Antonio, Texas.

Si le diagnostic a été bien fait, si on a employé des instruments et du matériel stériles, si on a bien administré sa solution anesthésique, si on s'est servi de méthode reconnue pour extraire la dent, si on a bien surveillé la propreté du champ opératoire avant et après l'intervention, on peut être assuré d'éviter les douleurs opératoires au patient. (Oral Health, septembre 1937.)



*"A smile costs nothing but creates much;  
It happens in a flash and the memory sometimes  
lasts forever;  
It cannot be bought, begged, borrowed or stolen  
But it is something that is no earthly good to  
anyone until it is given away.  
So if in your hurry and rush you meet someone  
Who is too weary to give you a smile, leave one  
of yours.  
For no one needs a smile quite so much as he  
who has none left to give."*



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## *Suggestions for Preventing Malocclusion\**

by S. STUART CROUCH, D.D.S., Toronto, Ontario

**T**HIS paper is entitled "Suggestions for Preventing Malocclusion."

I have endeavoured to treat it in a broad, general manner, and trust your interest will be sufficiently stimulated to inspire you to renew your efforts to prevent some, at least, of the gross dentofacial irregularities which have hitherto so seriously interfered with the physical and mental well being of a large percentage of the population. From surveys made in many localities it has been found that from twenty-five to fifty-five per cent of children are suffering from malformations of sufficient extent to seriously affect them physically and mentally. It is obvious, therefore, that it is practically impossible for more than a small percentage of these to receive adequate orthodontic treatment. Moreover, it is unsound in principle to endeavour to correct or eradicate conditions if it is at all possible to prevent them, or to keep most of them from progressing as far as they would if left alone. Therefore it is the intention in this paper to outline the possible measures which may be used for such prevention.

Some methods of treatment of cases in their incipient, or early stages, will be

mentioned, and some suggestions made regarding compromise treatment for severe malocclusion.

The trend in the healing art to-day is towards prevention. It is generally conceded that the great loss sustained, the preventable pain suffered, the irremediable conditions created, and the unnecessary expense involved through lost time as well as actual outlay is caused by endeavouring to cure disease rather than to prevent it. Such is true of general medicine, including dentistry, and it cannot be too frequently or too emphatically stated.

Too many are prone to be satisfied with a general program of patching up and attempting to restore, all of which is of course essential, but surely more time and study should be given to encourage a normal development of the masticatory apparatus, and in the keeping of that apparatus in the condition nature intended.

### THE PROBLEM DEFINED

Dentistry is defined as the study and treatment of the diseases of the teeth and mouth, and their relation to the health of an individual.

Orthodontics is the study of the development of the denture and the cor-

\* Presented at the 42nd Annual Convention of the New Brunswick Dental Society, July 6, 1937.

rection of deviations from the normal. Strictly speaking, orthodontics is a part of dentistry, but it emphasizes development, while general dentistry all too frequently emphasizes only repair.

Occlusion is the basis of orthodontics, and may be considered as—1. The relation of the inclined planes, which receive and distribute the forces of function. 2. These forces of function distributed through the inclined planes assist in bringing about the normal development of supporting tissues, especially bone.

The unit of mechanism is the single cusp on a pyramid of four planes wedged into opposing fossa, the forces of function holding it in position.

The problem for dentists should be the establishing and the maintaining of normal relations of the inclined planes, and the development of normal forces to bring about normal development of the features and the masticating apparatus, together with the health of the tissues.

#### THE DEVELOPMENT OF THE DENTURE

The perfect denture and the normal face can only be developed by perfect mechanism and normal functional forces. If the relation of the inclined planes is deflected, the forces of function will drive that tooth farther and farther from its normal position, and unless the forces of function are normal in amount and in proper balance, the supporting bones will not be developed so as to carry the teeth into their proper relation to the skull as a whole.

It is necessary to have a clear idea of the development of the normal denture and a grasp of the complicated and inter-related forces which are at work throughout the whole period of growth. At birth the bones contain the germs of all the deciduous and all the permanent teeth, except the second and third molars.

The growth of the teeth in their crypts exerts forces which are important factors

in the development of the bones.

The multiplication of cells in the formation of roots is the source of force which is transmitted from the erupting teeth to those held in position.

During this development period the muscles attached to, and surrounding the bones, exert pressures which help to mould these bones.

The growth of the bones is not steady, but there are periods of acceleration.

The whole process of growth of the jaws is dependent upon the retention of each deciduous tooth until the normal time for its loss.

Upon loss of all the deciduous teeth, further growth seems to be largely dependent upon vigorous muscular action. This stimulates cell activity in the bone by mechanical action and increased blood circulation.

#### OCCUSION

The forces governing occlusion may be defined as those agents and forces which tend to guide the teeth into their normal relations to each other and to the skull.

They may be divided into potential agents and dynamic forces.

(A) The potential agents are:

1. The inclined planes.
2. The contact of approximating teeth.
3. Harmony in the size and relation of the arches.

Through these potential agencies the dynamic forces are distributed.

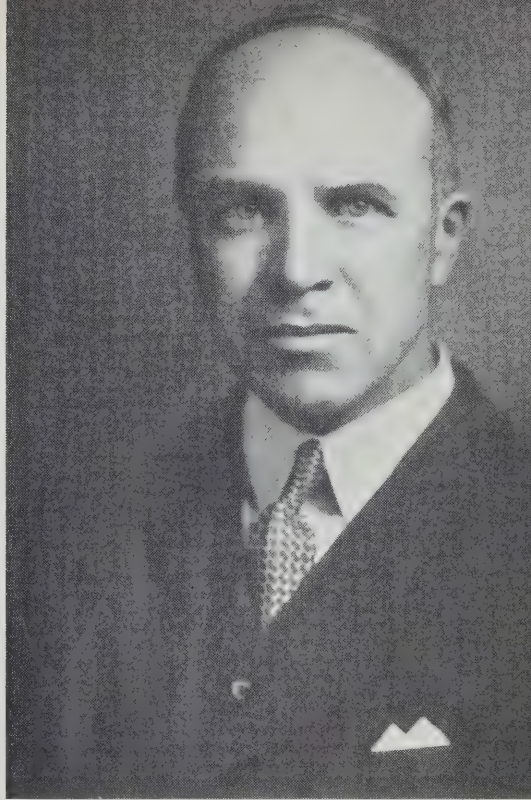
(B) The dynamic forces include:

1. Cell activity.
2. Muscular action and pressure.
3. Respiration.
4. Deglutition.
5. Mastication.
6. Speech.
7. Expression.
8. Atmospheric pressure.
9. Attention and muscular tone.

The multiplication of cells generates considerable force, e.g., the sprouting



S. STUART CROUCH



seed forces its way through the earth or a crack in a rock.

The growth of bone is a response to a mechanical stimulation of muscular action and pressure.

Normal positioning of teeth depends upon the vigour and balance of muscular action, consequently failure of normal muscular action results in under-development of bone, and may lead to malocclusion.

*Respiration* is an important function in assisting the development of the denture, e.g., (1) in strong respiration, muscles attached to the hyoid bone contract, drawing the tongue upwards and forward, forcing it against the teeth and supporting bones; (2) the air pressure within the nose when breathing is greater than atmospheric pressure, resulting in an expanding stimulus at each intake of air through the nose.

*Deglutition.* The act of swallowing gives definite growth impulses by pressure of the tongue against the arches

and roof of the mouth.

*Mastication* has the most direct influence upon the bone and the alveolar processes, stimulating both its blood supply and cell activity. Vigorous chewing increases the size and power of the muscles of mastication, resulting in increased growth of the bones to which these muscles are attached.

*Speech* has an active influence on the development of the bones of the face. Development of the chin begins with the power of speech, e.g., forceful speakers have well developed chins.

#### HEREDITARY FACTORS

Heredity doubtless plays an important role in predetermining malocclusion or tendencies towards such malocclusion.

The expectant mother should be advised as to the proper measures to take to assure her own health as well as to give the unborn child the best possible start in life. Following this advice should help to assure a normal masticatory ma-

chine. To this end it is doubtless true that the correct diet and exercises and rest which will bring about the former will also tend toward the latter. Any advice given at prenatal clinics, by physicians and pediatricians, which will improve the health of the expectant mother and assist in the normal development of the foetus, will be a distinct aid in preventing tendencies towards malocclusion in the unborn child. This is equally true of the diet of the nursing mother, and of the child after weaning.

The conscientious dentist will cooperate with the physician in using all aids which will assist in bringing about the desired normal conditions.

#### DEVELOPMENT BY EXERCISE AND IMPORTANCE OF FUNCTION

The problem of diet is closely linked with muscular development, on which the normal growth of the masticatory machine depends very greatly. In view of the great bulk of soft food it is perhaps desirable to use supplemental aids. It is generally accepted that normal development of bone depends on the use of the muscles attached thereto as much as to nutrition; that, in fact, the one stimulates the other. Various exercises such as those recommended by Dr. A. P. Rogers, of Boston, and others, may well be used in a moderate degree from early childhood to aid in normal muscular and bone development, and thus prevent malocclusion. Breast feeding establishes vigorous muscular action of necessity, while bottle feeding requires but little force.

Other aids may be suggested, (a) chewing hard gum, (b) the use of bite blocks.

#### REGULAR LIVING HABITS

Another important factor in building an efficient masticatory machine is regularity of life, especially desirable for children, though advisable for all individuals. This would include sufficient

restful sleep, proper nourishment and exercise, both physical and mental, which will best bring about the full all-round development of the child. It may be stated that interest in life is a necessary part of such development. This is being injected into educational and recreational pursuits as never before in the history of the world, and should bear much fruit in assisting normal growth.

Part of this regularity of life, indeed growing out of it, is attention to personal hygiene and, more particularly, oral hygiene. It is obvious that just as bodily health is impossible without intelligent training in bodily cleanliness and correct clothing, so also regular and thorough attention to the oral tissues is necessary in assuring mouth health.

Intelligent, thorough, and regular use of the tooth brush by every individual should be the aim.

#### DETECTING AND CORRECTING ABNORMAL HABITS

It is necessary to detect abnormal habits, the formation of which tends towards malocclusion. These include faulty sleeping, breathing and muscular habits.

As in all abnormalities the cause must be removed and careful sympathetic efforts made to correct the bad habits, remembering that positive rather than negative suggestion is essential to success in most cases.

The family dentist and school dentist have excellent opportunities for observing such cases, and should make an effort to overcome them, or refer the patient to those who will do so.

#### ADEQUATE CARE BY THE DENTIST

Equally important is regular dental care. Not only should the dentist watch for, and fill the smallest carious cavities but he should prevent them whenever possible by thorough and frequent prophylaxis, filling of fissures, and all other

## *Suggestions for Preventing Malocclusion*

well recognized means of prevention.

If preventive measures are neglected, malocclusion frequently will be the result, often with such infective complications as to make proper treatment difficult or impossible. Among these complications may be named abscessed teeth which prevent proper growth stimulus from mastication, bring about indigestion and kindred ills from lack of masticating power, pour toxins into the stomach and blood stream, and may seriously affect the developing secondary teeth.

Such conditions should be prevented at all cost by treatment or extraction if necessary. The writer does not agree with those who advocate the retaining of abscessed and broken down deciduous teeth in order to prevent drifting of adjacent teeth. Such retention is a menace to general health and to local tissues. Far better to allow drifting and retain health. However, space maintaining devices are so simple to make that neither evil should be tolerated.

### OTHER CONTRIBUTING CAUSES OF MALOCCLUSION

Malocclusion from too long retention of deciduous teeth is another cause for which there is little, or no, justification. The dentist or orthodontist, especially those in school or other clinics, should not allow this to occur.

Much malocclusion results from the presence of supernumerary teeth, malformed teeth, congenital absence of teeth, impacted and suppressed teeth, malformations of bone such as cleft palate, accidents, diseases of bone, such as osteomyelitis, and other causes.

It has been stated recently that perhaps too much importance has been attached to the presence of adenoid tissue and abnormal tonsils as a cause of malocclusion. However, even though this may be correct, it cannot be gainsaid that infective processes may be set up which will have

a harmful effect on the general system and thus indirectly affect development. It is certain also that adenoid tissue does interfere with normal breathing, and that enlarged tonsils do cause a misplacement of the tongue, and thus tend to cause malrelations of the dental arches.

Early and frequent examinations will disclose most of these conditions, and simple procedures will usually correct them, or reference can be made to other branches of the healing art if necessary.

The presence of supernumerary teeth will frequently prevent eruption of normal secondary teeth, or cause them to erupt abnormally. If any tooth fails to erupt at its proper time, radiographic and other examination should be made to discover the cause and prevent consequent malocclusion. In this connection it should be observed that the routine of making radiograms is of the most marked value in assisting in early diagnosis of malformations, irregularities, small proximal carious cavities, and many other underlying causes of malocclusion.

Malformed teeth and congenital absence of teeth are usually observed in the permanent dentition, but any indications of such should be noticed, and early steps taken to remedy adverse conditions.

Accidents appear to be on the increase; immediate correction of resulting malformations will go far towards preventing more serious results.

### IMPORTANCE OF EARLY DIAGNOSIS AND ORTHODONTIC TREATMENT

Just as the careful, observant and well-trained dentist can recognize gingivitis in its most incipient stages, so should he recognize the earliest manifestations of maldevelopment of the masticatory machine and take the proper steps to correct the same, and prevent further maldevelopment.

In the foregoing, many of these steps have been mentioned, but in many cases



it will be necessary to resort to the artificial forces obtained from mechanical appliances. Here again, as a general rule, the earlier these are resorted to the simpler they can be, and also they will be required for a shorter time.

In the words of Dr. A. P. Rogers, of Boston, "Remove interferences and place the jaws in a position of mechanical advantage" and you will have accomplished a great deal. With the restoration of normal function and of comparative health of oral tissues, the problem is solved for many cases.

It is important to remember that the better the health the better nature responds to outside stimulation, and more particularly does she do so at those periods of rapid developmental growth. These periods vary in different types, but a careful inquiry into family history, and observation of the case under your care, will assist in deciding this point.

The aims of orthodontic treatment and the benefits to be derived therefrom may be briefly summed up as:

1. The restoration of normal functional relations for mastication.
2. Correct speech.
3. Normal respiration.
4. General growth and development of the supporting structures.
5. The psychological effect on personality, appearance, self confidence and poise.

#### THE INDICATIONS AND CONTRA-INDICATIONS FOR ORTHODONTIC INTERFERENCE

The training and experience of the operator should influence him as to the type of cases he should attempt to treat, but the following points should be given consideration by all.

##### 1. Cause.

(a) If inactive, prognosis is favourable.

(b) If active and it can be removed,

prognosis is favourable.

(c) If active but it cannot be removed, or only partially controlled, prognosis is unfavourable and long retention will be necessary. Thorough consideration should be given before treating such a case.

(d) If cause is unknown, prognosis is uncertain, e.g., gland irregularity.

##### 2. Type of patient.

(a) The mental attitude of the child. It should be amenable to treatment.

(b) The physical make-up of the child. The robust type is more favourable.

(c) Responsibility, dependability and training of the child.

3. *The character and personality of parents.* Their co-operation is needed.

4. *Oral hygiene.* Reasonable care of the mouth is required during treatment.

5. *Macrognathism and micrognathism.* Compromise is sometimes possible, by extraction, spacing or opening spaces and inserting bridges. If permanent teeth have been extracted, compromise treatment is the only procedure possible.

6. *Early loss of the deciduous teeth.* The permanent teeth may have drifted. The growth of the jaws may have been inhibited. The resulting malocclusion will frequently be so severe as to contraindicate treatment.

7. *Bone stability.* Where the osseous structure is poor, prognosis is not very favourable. This is usually due to susceptibility to disease, infection and lowered vitality.

8. *Degree of malocclusion.* In extreme cases, the prognosis is unfavourable. Radiographic study assists in determining bone structure, pathological conditions, absence of teeth, supernumeraries, and impactions.

9. *Economic factors.* These are not as limiting as many think, as in the writer's experience even extensive orthodontic treatment can be given at a fee not ex-



## *Suggestions for Preventing Malocclusion*

ceeding the cost of two or three bridges or dentures.

10. *Age of the patient.* The age for treatment has been greatly extended in recent years, but periods of growth acceleration are best. Certain treatment may be undertaken up to forty years of age for relieving trauma and closing spaces.

### CASE ANALYSIS

Having decided to proceed with orthodontic treatment, the first step is to analyze the case. This systematic process of study of a case of malocclusion should include: Classification; tooth measuring; arch plotting; determination of relation of teeth and arches to the skull; study of axial position of the teeth; study of aetiology; prognosis; determining proper time of treatment; character and degree of tooth movement; appliances to be used; other treatment, e.g., myofunctional treatment, diet, etc.; general body conditions; detailed history and case data record.

### PLANNING TREATMENT

Having analyzed the case a definite plan of treatment should be made and written down, including a description of the type of appliances to be used.

(a) The work by the patient includes general co-operation and assistance in removing the causes, such as habits, faulty diet, etc.

(b) The work by the operator should be logical and constructive in order of tooth movement. He should correct the case in the order in which it has passed into malocclusion. If the teeth are crowded it is because of insufficient development of the arches. If the arches are in malrelation this should be corrected before individual tooth movement.

### PREVENTIVE TREATMENT

This includes prenatal instruction to mothers as to diet, and need for good physical condition.

Postnatal instruction should include diet, detection of bad habits, deformities, etc. Advice as to how to establish normal functional forces of mastication, swallowing and breathing. Preservation of the deciduous teeth if possible.

Space maintainers should be placed: (1) If deciduous teeth are lost before the bicuspid are erupted enough to hold the spaces. (2) To prevent overeruption until the opposing teeth come into position.

### CORRECTIVE TREATMENT

Eliminate the cause, or causes, if possible.

(a) If the cause is prolonged retention of teeth—Remove.

(b) If it is the presence of supernumerary teeth—Remove them.

(c) If there are abnormal functional activities, correct by exercises, etc.

(d) If there is an abnormal frenum, close the space and hold until approximating teeth have erupted.

(e) If there are poor dental restorations, replace them.

(f) If there are habits, such as thumb sucking, these must be overcome.

(g) If there are emotional causes, posture pressures, or imitations, careful training may be necessary to overcome them.

(h) If there are constitutional disturbances such as faulty metabolism, abnormal glands, perverted muscular activities and large or infected tonsils, the physician should be asked to co-operate.

### COMPROMISE TREATMENT

Compromise treatment may be defined as that treatment which will bring about a definite improvement without attaining that which may be considered the ideal result for the case.

Compromise treatment may be considered justifiable under the following conditions:

1. Patient too old for full treatment.

2. Physical condition of the patient.
3. Mental condition of the patient.
4. Impossibility of attaining the normal because of the absence of teeth, extracted teeth, pathological conditions of the mouth, extreme malocclusion, defects such as cleft palate, or accidents.
5. Economic conditions, distance, or financial circumstances.

#### RETENTION, OR SECONDARY TREATMENT

Teeth remain in normal position and relation when they are in harmony with the forces of influence to which they are subjected.

Function and growth go hand in hand, therefore normal function develops and maintains teeth in their normal position. This includes mastication, speech, expression, swallowing, respiration and normal metabolism.

Mechanical retainer appliances are designed to meet individual requirements, and should be as simple as possible.

(a) Individual teeth may be retained by bands and spurs.

(b) Groups by sectional retainers.

(c) Plain lingual or labial arches.

(d) Bite plates of various types may be worn part time, and are removable for cleansing.

(e) Light intermaxillary elastics at night may be needed for mesio and distocclusion, and open bite cases.

(f) Spur retainers and buccal planes.

Retainers are required until teeth and arches are harmonized in function. Keep under close observation after removal.

86 Bloor Street West.

Remove appliances from one arch at a time.

In the Clinic which follows an endeavour will be made to indicate:

1. Types of appliances which the general practitioner might use.

2. Records of various types of cases which the general practitioner should treat, and suggested methods of treatment.

3. Records of cases which perhaps would be better left alone by the inexperienced operator.

In concluding this part of the presentation it may be well to state what, in my opinion, should be the aims for general practitioners regarding orthodontics.

1. To appreciate the effects of normal occlusion and malocclusion in oral and general health.

2. To understand the biological aspects of malocclusion.

3. To appreciate the importance of the deciduous denture and the effect of a perfect deciduous denture upon the development of a permanent denture.

4. To appreciate the value of orthodontic service for children in preserving facial harmony, and the health and function of the teeth.

5. To supervise the growth and development of the natural dentures and associated parts.

6. To diagnose cases of malocclusion, and treat cases that do not involve particularly difficult or unusual problems.

7. To recognize one's own limitations in determining the advisability of treating a case or not.

8. To make proper case records.

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*I am all for getting down to bedrock on the children's problem. It is in posterity that our triumph will be proclaimed, not in all this patching and repairing which the present demands of us. It is an endless cycle which sears all the nobler ideals that haunt the shades of reflection.—Professor J. Reid Burt, Editor of the New Zealand Dental Journal.*

# Thirteenth Annual Fall Clinic of the Montreal Dental Club President's Address

by D. D. MacDONALD, D.D.S., Montreal

WE ARE about to open the 13th Annual Fall Clinic of the Montreal Dental Club and it is my duty as well as my pleasure as president of this Club to greet you and to extend to you our welcome. Three groups are concerned with this Clinic even though one of them does not appear. We have the public at large, the clinicians and the dentists themselves. I would like to address a few words to each group. The public might ask "What is the present status of dentistry and what is its outlook for the future?" We are glad to be able to reply that dentistry has made wonderful strides in all its branches even within the past year. I cannot take time at this point to dwell on all these improvements and advancements but I would like to say a few words as to what has been done along the lines of prevention.

The task of searching for the real cause and by the same token for the prevention of tooth decay was not undertaken seriously until about twenty years ago, but since that time many well qualified men and women in many countries have been working and are working with the end in view that tooth decay might be understood and eradicated.

But someone has said "A tooth is, after all, a very small part of the body; surely the problem of finding out all about it can not be so great." I would simply like to remind him that the greatest scientist that ever lived does not know all that is to be known about one drop of water, nor does he know all about one grain of

sand. Progress along the aforementioned lines is being made and I expect that within the next quarter century the solution will be found.

The dentists who are doing this research work are labouring for the most part without remuneration and without hope of reward. Many millions of dollars have been donated for medical research but very little for dental. If these words of mine should by any chance reach some philanthropist, I trust they will be food for thought.

In the meantime while waiting for prevention of decay what are we to do? I take it for granted that everyone would like to keep his teeth and keep them in the best possible condition. To do this parents must take their children to the dentist at three years of age or earlier. First teeth emphatically should be filled and just as emphatically parents should not wait until the "eleventh hour." The child should have his teeth examined at least every six months, oftener if his dentist advises it, from this time on. By six months, I mean twice a year, and as they say in industrial life, "this means you." The teeth should be brushed thoroughly at least once a day, use a good brush and discard it for a new one when it begins to lose its usefulness. Do not depend on mouth washes as they have little value as tooth cleansers or gum protectors. Eat a well balanced diet with as little sugar as possible and take the advice of your dentist as against that of the advertiser.

Lastly, if you would like more detailed information about your teeth, phone or write your newspaper and ask them why they do not print a dental column similar to the medical column. Dentists would welcome the opportunity of contributing the necessary information.

The task of welcoming the clinicians is an easy one for the simple reason that they know they are welcome. I do not think that we could justly be accused of boastfulness if we said that it is now somewhat of an honour to be invited to appear on the program of this meeting. Our intelligence department, with Dr. M. L. Donigan as the master spy, has ramifications all over the United States and Canada and no one is invited to clinic here unless he is known to be outstanding in his profession, so the very fact that they are here is the highest compliment I can pay them.

We now come to the man who comes to the Clinic as a student. Why does he come? Cynics have told us long ago that he comes to find an easier and quicker way of earning his money. I have heard that Abraham Lincoln once said that every act of his own life was a selfish one. I do not believe that every act of his was a selfish one, but there is much to think about in that statement. Likewise, I do not think that every dentist comes to the Clinic with altogether mercenary motives.

The truth is that the dentist occupies a rather unhappy place in the scheme of things. I once heard a clergyman say that he was convinced that there was a feeling of antipathy towards the dentist on the part of the public and when that same clergyman refers to the learned professions during the course of an eloquent sermon he is not referring to you or me.

I have also noticed that a dentist does not get much of an obituary when finally he leaves this vale of tears. His accomplishments as an athlete or his club connections will in many cases be men-

tioned but in the majority of cases he is allowed to pass on to whatever punishment he has merited and the least said about him the better.

A few days ago I had occasion in connection with the ladies' luncheon to go over the names of the members of the Montreal Dental Club to see who were married and who were single and I was not at all surprised to note the large number of members who are bachelors. I did not need to be reminded that the dentist occupied no place in romance, his pathetic attempts to the contrary notwithstanding. Of all the shows or plays I have ever seen I can recall but one in which he was cast in the hero's role, and in that one instance he was more an object of pity than of hero worship. I will always regret that circumstances prevented my seeing the complete presentation. I can recall reading but one story in one of the popular magazines in which the dentist was at least one of the central figures, but beyond all doubt the story was written by a dentist himself. He does not even make a convincing villain because no self-respecting villain works as hard as he does. He has been used, however, with indifferent success in cheap comedies and as the butt of innumerable cartoons. He is a football for everyone that wants to take a kick at him and many a rousing paper has been written by one of his own profession that has sent him, in this respect, sailing high and far. In connection with this I would like to read two paragraphs from an article by Dr. James Mark Prime in the *Journal of the American Dental Association* for January, 1936. "The loudest talk with the biggest crowd in attendance will be on the subject furthest from the real issue. Just announce a new method for making a full upper and lower in thirty minutes requiring but one appointment, never have to touch them and you will need three policemen at the door." Yet on the same page he



says, "We get the most magnified and undeserved compliments from patients when the results are far from what we wish; we have dissatisfied patients with unpaid accounts when the results are as good as we have ever had." What a world of thought that last sentence opens up and who will now dare say that James is not a philosopher.

Yet the dentist seldom works under ideal conditions, he fills and saves hundreds of teeth during the course of a year where he has only about half a millimetre of tooth tissue between his filling and the blood stream. He needs good eyes, good hands and steady nerves to do this. He is called upon daily to make difficult decisions, decisions which bear closely on

the health and well being of his patients and for these he receives no reward or recognition. If he is right it is all in the day's work and if he is wrong he usually bears the brunt and this brunt can manifest itself in many different forms.

But today he is here at the Clinic and I earnestly and sincerely believe that dentists as a whole yield a place to no other profession in their desire and efforts to advance their knowledge of their tasks and while he is here on this mission we would ask him to spend some time in relaxation. We trust that he has enjoyed the golf tournament and that he will enjoy the luncheons, the dinner dance and his association with his fellow practitioners for he is now among his friends.

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*More than anything else, the medical and the dental profession fear, as part of a communal medical and dental service, a deterioration in the quality of care that would in the end be exceedingly harmful to the American people. All that sickness insurance plans offer as dental service are exodontia, plastic fillings, and prophylaxis. More than 90 per cent of the population earned less than \$3,000 per family in 1929, yet this same group of people furnished 60 per cent of the practice of 86 per cent of the dentists in this country. There are few, if any, Americans who are willing to accept the kind of dentistry that this insurance offers them and who would be satisfied with it after they had paid for it.—Morris Fishbein, M.D., J.A.D.A. and D. Cosmos.*

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*Don't insist that the single answer to everything is successively Fletcherizing your food to a liquid, dedicating yourself to roughage, to sour milk, to psychoanalysis, glands, nudism, radical exodontia, or its complete negation, diet in place of the tooth-brush. Cold baths are good, but not always for everybody. The British Empire was built up on cold tubs, and the Roman Empire on hot baths.*

*Nature has no one single piece of "must" legislation. Nature's health laws constitute a system of checks and balances, with moderation for the tempo and always an eye on the individual patient—his family history, his constitution, his physiological idiosyncrasies.—Excerpt from Editorial, "Saturday Evening Post," September 18, 1937.*

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*"What we do for ourselves alone, dies with us: what we do for others and the world, remains and is immortal."*

# Is Dental Caries a Disease, or but a Symptom?\*

by J. F. MORRISON, D.D.S., Winnipeg, Manitoba

THE writer wishes to disclaim any originality for the material to follow. Most of it has been gleaned from months of reading of articles appearing in dental literature.

Diseases of the teeth have been common in all ages of the human race and are often mentioned by even the earliest writers on medicine. Examination of the teeth of prehistoric skeletons of man shows signs of caries, though less frequently than among civilized peoples. An ancient manuscript dating back to 1550 B.C. refers to dental and gingival diseases and the means employed for their relief by the ancient Egyptians.

Hebrew writers make no reference to dental diseases, the inference being that they were not common among this ancient people. The importance in which the teeth were regarded by the Hebrews, however, is indicated by such phrases as, "an eye for an eye," and "a tooth for a tooth."

A study of the early history of the ancient Babylonians, the Phoenicians, the Chinese, the Japanese and the inhabitants of India show that much attention was given by them to the care of the teeth. In fact the literal translation by the Chinese and Japanese of the words "dental caries" means in their language "tooth worm." Many of the various peoples of Asia believed that tooth decay was caused by worms and the theory was held by many during the 12th, 18th and even the 19th centuries.

From the earliest times, until the 18th

century, the study of dental diseases and their treatment developed as a part of general medicine, and while in all ages there may have been individuals who were skilled in extractions and mechanical appliances, there were not enough of them to form a separate and distinct profession.

Hippocrates (460 B.C.) and other Greek physicians, and especially the philosopher Aristotle (384 B.C.) discuss diseases of teeth and mouth with considerable detail, and the history of dentistry shows the influence of their teachings for many centuries.

Even before the foundation of Rome, knowledge of dental diseases and their treatment had made considerable progress among the Etruscans, who resorted to extraction and used a form of bridgework to support artificial teeth.

The dental art was introduced among the Romans by the Greeks and Etruscans as indicated by the writings of Celsus, who about 25 or 30 A.D. gathered into eight books the medical knowledge of the times. He wrote quite extensively on diseases of the teeth, exhibiting fairly advanced knowledge of teeth and their treatment.

A century later Galen (130 A.D.), whose teaching exercised such a dominating influence upon medical thought for centuries, gave considerable attention to diseases of the teeth.

Writings of 850, 950 and 1050 A.D. indicate little progress with knowledge of dental diseases and it was not until the 16th century when human dissection was

\* Read before the Winnipeg Dental Society.



J. F. MORRISON

resumed, it having been practiced by the Alexandrian school in the 3rd century B.C., that further progress began.

The real founder of scientific dentistry was Pierre Fouchard who practiced dentistry early in the 18th century in Paris. By his writings he did much to establish dentistry as a specialty separate from general surgery, and since his time medicine and dentistry gradually drifted apart and became recognized as separate and distinct professions.

Fouchard in his writings complained that "Authors who have written on anatomy, surgical diseases and operations have only treated very imperfectly the part relating to maladies of the mouth and teeth . . . this branch of the art having been but little cultivated, if not wholly abandoned, by the most celebrated surgeons, their negligence has caused it to fall into the hands of persons without theory and without experience, who practice the art in a haphazard fashion, guided neither by principles nor method."

Later on in the 18th century the great English surgeon and pathologist, John

Hunter, who was born about 40 years after Fouchard the Frenchman, published two important works, one in 1771 on a "Natural History of Diseases of the Teeth" and in 1778, a "Practical Treatise on Diseases of the Teeth."

With the introduction of mechanical aids into dental practice in the 18th century by Fouchard, and others, mechanical skill developed so rapidly during the 19th century that the importance of the teeth from the standpoint of appearance has led physicians and dentists since then, even up to the present time, to consider the teeth too exclusively from the aesthetic standpoint and to lose sight of dentistry as a health service.

#### DENTISTRY AND MEDICINE

While one may appreciate the causes which led to the evolution of dentistry as a specialty apart from medicine, its separation has been attended by unforeseen developments which have hindered the scientific progress of both professions. The study of general pathology has been neglected by the dental student, and the

study of dental pathology by the student of medicine. This illustrates the danger attendant on the study of the diseases of any organ or part of the body without an intimate knowledge of their pathological and clinical interrelationships with other parts of the body. Now that dentistry has reached its zenith of mechanical skill any movement to bring it back to its former place as a branch of medicine, the same as the eye, ear, nose and throat, has much, if not everything, to commend it.

The acquiring of knowledge seems in some respects to have been a process of working backwards. The world had universities centuries before schools for the masses were even thought of. Tooth decay for centuries was regarded as inevitable, and progressed through its several stages until the forceps were called into use; and while pulpless teeth must have always been considered potentially dangerous, the dental profession thought it took a great stride forward when it found that abscessed teeth could be saved. This non-vital tooth saving became a source of much self congratulation in our profession, and it was a stunning blow to our pride when Dr. William Hunter, the British physician, after talking and writing about it for 12 years, at last, in 1910, came out with his scathing denunciation of dentistry as then practiced, at a meeting of the British Medical Association held in Montreal. Dr. Hunter said, in effect, that many dental restorations such as fillings, gold crowns and fixed bridges, formed a veritable mausoleum of gold over a mass of septic material with which there was no parallel in the whole realm of medicine or surgery.

In the years immediately following this indictment thousands of teeth were extracted and the dental profession became frantically busy replacing the lost organs of mastication. Our appointment books were filled for weeks ahead. Both the dentists and their patients became quite

puffed up because one had to reserve time with the dentist so far ahead.

In 1915 when Dr. Charles Mayo said that the next step in preventive medicine must come from the dentists, we were startled, some of us, because we thought we were already practicing preventive medicine since we no longer treated abscessed teeth. It had not occurred to most of us at that time that perhaps all this dental disease was not inevitable and might be prevented.

But now in the year 1937 we seem to have worked backward far enough in our acquiring of dental knowledge to ask ourselves seriously if tooth decay, pyorrhoëa, and malocclusion can be prevented. These thoughts are not new to such people as Miller, Black, Williams, Hyatt, Fones, Price, Sim Wallace, and Lady Mellanby, to mention just a few of them.

Among those who do give serious thought to the cause of oral ill health there are two main outlooks. One is that dental caries is local in origin and the other that it is systemic. The general consensus of opinion among those who think about it at all is that both viewpoints are correct, in that the exciting cause is local and the predisposing cause is systemic.

#### LOCAL ORIGIN OF CARIES

The best known of the local origin advocates was Miller. His theory is often referred to as the chemico-parasitic theory. Miller worked in the laboratory of Koch, the German scientist and research worker, who became best known for his tuberculosis research. Miller believed that the initial stage of dental caries is a decalcification of the enamel resulting from the presence of certain oral acids. To quote him, he said, "There is no difficulty in accounting for the source of the acids concerned in dental caries. The saliva is impregnated with acids in various special and general disorders of the system. Acid is brought



into the oral cavity with the food and with the administration of medicine. But by far the greatest part of decalcification is attributed to those acids which are produced within the mouth by fermentation." Miller was not entirely satisfied with his theory, however, and was still engaged in investigations when his untimely death occurred at the age of fifty-four in the year 1907.

One of the chief disciples of the Miller theory was Sim Wallace of England. Wallace has written frequently and voluminously and was so sure that he was right that he thought that anyone who did not think as he did must necessarily be wrong. A scientific mind should first be open to conviction. Other prominent believers of the Miller theory include G. V. Black, Leon Williams, A. C. Fones and Hyatt.

#### SYSTEMIC ORIGIN OF CARIES

We now come to the systemic theory which is supported by Lady Mellanby, McCollum, Price, Marshall, Boyd and Drain, the Agnews of West China Union College, and Ferrier, and many others. The supporters of the systemic theory are not in one camp, however. Some believe that adequate and proper diet is the controlling factor. Others that the endocrine glands are in control. But all three, the Millerites, the dietarians and the endocrinologists, are agreed about one point, namely, that no matter what is the cause of dental caries it begins on the outside of the teeth. Recently the theory has appeared in print that caries may have its origin from within the pulp due to a bio-chemical change in the blood serum.

For the endocrine theory I venture to say that no thinking medical man or dentist would deny that the endocrine glands control the normal growth and development of the human body, and there is no reason to dispute the statement that hypo or hyper function of the

thyroid, the para-thyroids, the pituitary, and the gonads have a positive and quite definite effect upon the size, growth, development and shape of the teeth and their maintenance in a state of health or disease as the case may be. But behind all that what causes the normal or abnormal functioning of these endocrines?

Inherited endocrine defects will no doubt result in endocrine dysfunction. But, on the other hand, such dysfunction if detected soon enough after birth may be corrected by treatment. In the process of metabolism some of the endocrines are catabolic in their action and some are anabolic. It is known that it is possible to stimulate action of the catabolic set by increasing the daily intake of chlorides and phosphorus. It is also possible to stimulate the anabolic set of endocrines by increasing the daily intake of potassium, calcium and iodine. So when we come to discuss the theories of the dietarians just keep this stimulating effect of the minerals upon the functions of the endocrines in mind.

After a paper about the relation of diet to oral health is read some person is almost invariably ready to ask why do children who belong to the same family, living at the same table, etc., vary so in their mouth health. Is it not probable that the child with the healthy mouth was born with a normally functioning set of endocrines, while those with the poor teeth were born with a poorly functioning set and the defect was not discovered until it was too late to do much about it so far as the teeth were concerned.

#### DIETARIANS

Let us now turn to the claim of the dietarians. They believe that tooth decay can be controlled and prevented by a proper, and adequate diet, and that lacking such diet the slogan of the chemico-parasitic enthusiasts, "A clean tooth never decays," is all wrong. If a clean tooth

never decays, then the opposite should be true, that an unclean tooth always decays, and we know that is not true. On the contrary, the primitive races who are practically immune to caries lose that immunity with the use of the tooth brush, not because they brush their teeth but with the coming of the tooth brush comes also the diet of our civilization.

Among the believers in an adequate and proper diet being the controlling factor in the prevention of dental caries the most energetic, tireless investigator of them all is Weston A. Price, of Cleveland, Ohio. There are numerous other investigators but the difference between Price and most of the others is that while they have made their deductions from experiments upon animals, Price, in addition to animal experimentation, has travelled widely about the world investigating conditions among peoples who are immune to dental caries. He has been in Europe, the wilds of the Arctic Circle of America, the isles of the Southern Pacific and in Egypt and Ethiopia.

In Europe Price visited an isolated valley in the Swiss Alps where there is a community of about 4,000 people who are practically immune to dental caries, and are such perfect physical specimens that the famous Swiss Guards of the Vatican have been largely recruited from among them for centuries. These people are isolated from the outside world about nine months of the year and so are forced to raise their own food which is dairy products, rye flour bread and mutton.

About an hour's walk from this isolated valley is another which is quite accessible to modern transportation. In this valley the diet of modern civilization exists in the use of white flour foods, jams, marmalades, milk chocolate, clarified syrups, cakes, pastry, etc. Here dental caries is found in about the same ratio as in any Canadian city.

Price found the same immunity to

caries in the Isle of Harris of the Hebrides Group among the Hebrideans who were too far away from their one seaport, Stornoway, to have access to modern food products. The diet of those without caries was not the dairy products and rye flour of the Swiss community, but sea foods and oatmeal ground in their own old-fashioned stone mills.

In the Arctic Circle areas of North America Price found the same degree of immunity to dental caries among the Esquimos of the Behring Straits who have to hunt up their own food and live mostly on fish and other sea foods. Farther east on the other side of the Rockies the North American native Indians living in the Mackenzie River basin, existing upon moose, caribou and mountain sheep and goats, are also immune to caries as long as they keep to their native diet. But all these peoples, Swiss, Hebrideans, Eskimo and Indians who have access to our so-called civilized diets begin to develop dental caries with the substitution of our modern foods for their native diet.

In the island, Tristan da Cunha, in the southern Pacific, Dr. Price found the natives who lived upon a carbohydrate diet also immune to dental caries. From this it seems that immunity to dental caries is lost with the substitution of our modern diet for the foods of peoples of all races and climates who are forced by circumstances to hunt or fish or grow their own subsistence and consume it unadulterated or demineralized by modern methods of food preparation.

What civilized man does to his food before it reaches his stomach may account for the ailments so common among civilized peoples today. It is preserved in tins, sealers, and bottles; pasteurized, boiled, steamed, stewed, baked, fried and sterilized, as well as dried, ground, shredded and mixed and finally covered with dressings, sauces and condiments.

It is also coloured, polished, and beautified to attract the sight, smell and taste. Hyatt, the clean tooth apostle, in discussing some of Percy Howe's ideas about diet, which are similar to those of Price, said that if Howe was right what we need today is a series of reformed restaurants rather than tooth brush drills. Many people are thinking that way these days because they realize that we have all the natural foods of our ancestors, or those peoples mentioned who are free from caries, but that by some or all of our

civilized modern processes of handling we ruin the living protoplasm and vitamins which appear to be vitally necessary for metabolism.

So in answer to my title, "Is Dental Caries a Disease Or But a Symptom?"—I would reply that I do not know, but it does not matter much which it is, if it can be prevented. Price has proven to his own satisfaction that dental caries can be prevented by proper and adequate diet. What do you think? I think it is worth trying.

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## *Intricate Full Denture Technique Reduced to Simplicity\**

by ALEXANDER S. LEHMAN, D.D.S., Hollywood, California

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**F**ULL denture prosthesis today has reached a very high degree of efficiency.

With the latest devices and technique it is possible to construct dentures which are scientifically, mechanically, biologically, and aesthetically correct, and capable of performing properly the function of mastication.

The valuable research in many phases of denture work which is responsible for the achievements attained has not, however, wholly benefited all our colleagues. This is due to the fact that the various systems evolved have brought forth discussions of so many debatable and purely theoretical questions and controversies that in this maze of argumentation, accumulated scientific findings have been lost and in the minds of many have created only much chaos and confusion.

The general dental practitioner who is at all times eager to acquire new knowledge, to improve his technique, and

generally to advance himself, usually makes many attempts to follow the new trend. After much exasperation and repeated failures, however, he concludes that these intricacies only add to his confusion, and therefore decides to continue his "plate work" in the same old fashion as before.

With this in mind, your essayist will aim, through the medium of this paper, to reduce the intricacies of scientific denture construction to simplicity, and to enable those who are still perplexed to improve their technique.

For obvious reasons, details, such as mixing of plaster or heating modelling compound, as well as definitions of the terms occlusion, articulation, and the like will all be omitted and only essentials of importance bearing on the technique described will here be discussed.

The names of Hanau, Gysi, Fish, Stansbery, and Terrell will stand as a beacon light in the history of the develop-

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\* Presented before the Mount Royal Dental Society, Montreal, October 1, 1937.

ment of scientific denture prosthesis; yet the steps that follow are not taken from any one particular technique but appropriated from various sources and from works of men known and unknown and cemented together with the experience of your essayist, who in his long years of practice has constructed more than ten thousand dentures.

#### EXAMINATION OF THE PATIENT

The edentulous patients whom we deal with in denture work are either those who wear dentures or those to whom this will be a new experience. In the case of the former, the defects of the old dentures should be ascertained; in the latter, their mental attitude, their sense of appreciation of our efforts, and their willingness to co-operate should be studied.

A radiogram of the alveolar ridges will reveal the condition of underlying structures and any impactions which may be present. In all cases, the physical condition of the tissues involved should be carefully surveyed as to the possibilities and limitations of successful results. Data and findings thus obtained must be properly recorded.

#### VULCANITE TRAYS

Vulcanite trays are recommended because in outline they approach very closely that of the finished dentures. They favourably lend themselves to muscle-trimming; they are rigid; and because they can remain so under all conditions they are most useful and best suited for taking the final impressions and for inter-maxillary check-bite registrations, later on.

For the upper tray an oversized modelling compound impression is taken, the operator making particularly sure that there is enough compound to cover the posterior buccal portion of the ridge, around the tuberosities. After the impression is removed, the mucous is wiped off the palate and the two pits at the

posterior border in the centre of the hard palate are located and marked with an indelible pencil. With a ball burnisher the pterygoid notches are next located. (Note: The pterygoid notch is formed by the hamular process of the internal pterygoid plate of the sphenoid and the tuberosity of the maxilla).

The notches are covered with a thick layer of resilient tissue and serve as a very favourable point from which to start the post dam. A line drawn from here to the pits will mark the line of demarcation between the hard and the soft palates. Back of this line we establish the post dam zone. Following this, an outline with the pencil is made of the hard centre of the vault, the rugae, as far as the ridge, and even the anterior part of the alveolar ridge itself, if the latter happens to consist of flabby tissue. The impression is now moistened and reintroduced into the mouth.

Upon its removal, the pencil outlines will be found transferred to the impression. With a sharp knife, the post dam is grooved and the palatal area within the outline is scraped to a depth of several mm. to avoid compression of these tissues. The posterior palatine foramina anterior to the pterygoid notches need no relief, as these are well protected by a layer of muscular tissue. The anterior palatine canal, however, as well as the rugae, must be relieved. It is quite possible that the atrophy of the anterior part of the alveolar ridge, so often noticed under dentures, may be due, not so much to the forward thrust exerted by the mandible, as to the pressure upon the blood vessels which pass through this canal, which is covered with only a thin layer of mucous tissue and is thus subjected to constant pressure by the denture.

The impression is poured in "stone." Upon separation, the raised line of the post dam is widened and deepened to about one-half the thickness of a No. 10



round bur and the cast may now be turned over to the technician for the construction of a vulcanite tray.

For the lower jaw, a tray is selected which is as wide and as long as may conveniently be introduced into the mouth. The posterior buccal border and distal end of the tray are slightly curved upward. The purpose of this is to allow the compound to fill the buccal fold in order to form a wide buccal roll posterior to the second bicuspid area on to the end, and to obtain an impression of the tissues of the anterior surface of the rami as high as possible. An oversized impression is taken and while seating it in the mouth, the patient is instructed to protrude the tongue, move it from side to side, and touch the upper lip.

After the impression is removed and chilled, the posterior lingual flange is obliquely cut off and a piece of black modelling compound, the size of an olive, is attached to the cut-off surface. This is fused with an alcohol torch, tempered in hot water, resealed in the mouth and the new soft compound pressed against the lingual throat form with the finger, and the patient is again asked to move the tongue as before.

After this impression is removed and chilled, if it shows a deep lateral throat form and undercut (class 1), then the new flange is broken off with a sharp break and laid aside. This is to facilitate the undercuts in reseating the impression in order to carry out the same procedure on the opposite side. This completed, the flange previously broken off is now reattached with sticky wax and the impression poured in "stone," one is now ready for construction of the lower vulcanite tray.

#### FINAL IMPRESSIONS

At the next sitting, the trays are fitted and trimmed for freedom of muscle action and made ready for the final im-

pression. The technique for the upper impression is as follows: With a green modelling compound tracing stick, dry heated, a layer of this compound about a fourth of an inch wide is spread on the inner surface of the tray, next to and along the periphery, including the post dam, tempered in hot water and pressed to the maxilla. While the tray is held with the middle finger in the centre of the vault, the patient is instructed to suck the finger and thus muscle trim the impression. Upon removal, if the border of the impression tray shows through the compound in any place, the vulcanite then is trimmed, and more compound added until corrected.

The final muscle trimming, however, is carried out in sections; the molar area, the bicuspid, the anterior halves, and the post dam in the order mentioned. Beginning with the posterior end of the rim, each section is reheated, tempered, resealed in the mouth, and the patient asked to suck the finger until the whole periphery is completely muscle trimmed. The impression is now ready for carrying out the fine details of the tissues involved.

With a No. 8 round bur a hole is made in the centre of the vault of the tray; a mix of impression paste is spread over the whole inner surface, introduced into the mouth, and slowly pressed to place. Any surplus of the paste will run out through the hole, which is then covered with the finger and held in place while the patient is sucking it for muscle trimming. If this technique is correctly carried out, not only will the impression show adaptation and retention but there may even be considerable difficulty in removing the tray. In the latter event, the hole in the vault is cleared of the impression paste with a bur and a spray of water or air is forced through it or under the post dam and the tray will be freed.

The technique for the lower final impression is practically the same as that of

the upper. The compound tracing stick is applied to the buccal, labial and lingual inner surfaces of the tray (not necessarily to the crest, or lingual flange), fused and tempered as usual, and the tray is seated and held with the fingers in the bicuspid region. The patient is instructed to protrude the tongue, touch the upper lip and move it from side to side. Upon removal it will be noticed that both layers of the compound have united and covered the crest. Again, final muscle trimming is carried out in sections, beginning with the posterior end on the buccal surface, next the lingual periphery, and finally, the stick is applied to the flanges one at a time, and muscle trimmed by having the patient protrude the tongue and move it from side to side. Impression paste is next applied and spread all over the inner surface of the impression, which is re-seated in the mouth and held five minutes until the paste is set. The patient is dismissed.

The impressions are now poured in "stone" with split cast remounting plates inserted, and hard shellac base-plates are adapted to the casts, with upper and lower wax bite blocks attached.

#### VERTICAL OPENING, AESTHETICS AND PHONETICS

At the third sitting, the base plates are seated in the mouth, the wax rims are trimmed until they seem to be of proper height to fill the intermaxillary space and are evenly occluded. As there are no set rules for determining exact vertical dimensions, the operator must govern himself by the patient's facial contour. When in doubt, however, it is better to err on the side of elongating, rather than shortening, the opening.

The anterior part of the upper rim is now cut out and the anterior teeth, including the bicuspid, are set up and followed by the setting of the lower anteriors.

Aesthetics, i.e., selection of colour and mould as well as the arrangement of the teeth, will not be here discussed. This phase of the technique must be left entirely to the best judgment of the operator in consultation with the patient. However, as a further aid in the problem of establishing the vertical dimension, aesthetics, and phonetics the patient is asked to pronounce and accent the words "Mississippi" and "mailamm," and to recite the alphabet.

"A", pronounced with a smile, will expose teeth to full length.

"B" will bring lips in rest position.

"C" will give correct centric.

"D" will bring tip of tongue to upper centrals on palatal surface.

"E" will give natural opening of lips in rest position.

"F", incisal edge of lower centrals will touch naturally upper lip.

"G" will give correct centric.

"K" correct opening of lips in rest position.

"M" will register correct vertical opening.

"N" will produce relaxed position of mouth.

"P" will give natural position of lips.

This will materially help and may call for some corrections, which are all made at this sitting.

This concluded, two notches are cut in the rims on either side, a piece of soft wax is interposed between the rims back of the bicuspid, and the patient instructed to close in approximate centric. The base plates are then removed and the patient dismissed.

The casts and base plates are now re-assembled and mounted on a plane line articulator and turned over to the technician with instructions to replace the base plates with the vulcanite trays previously used. He is to tin foil the casts, file the handles off the trays, remove all compound and paste and eliminate all under-

cuts from these trays. He is to spread fresh impression paste on the inner surface of the trays, adapt these to the tin foiled casts, and attach the Stansberry plaster check bite plates in proper position.

#### GOTHIC ART REGISTRATION

To secure accurate functional mandibular positions and excursions is most important for speech and mastication, and it is not as intricate a procedure as many dentists think it is. In fact, it is quite simple. The vulcanite base plates are seated in the mouth, the patient is asked to relax, close his jaws and nonchalantly move the mandible forward, backward, to the right, and to the left, without separating the jaws. After several rehearsals, most patients are able to follow the operator's directions. However, should the patient become confused and nervous and unable to follow these directions, it is best to dismiss him without showing the least chagrin and ask him to exercise these movements at home, several times a day.

When he returns, it will not be at all difficult to carry out this procedure. The style-holder and graph-plate are then attached, the movements again rehearsed and when the operator is satisfied that the patient has moved the mandible to the most retruded position, the stylus is pressed and the centric is registered. Without separating the jaws, the patient is asked to move from this point first to the right and from the same position to the left. This will result in a tracing on the graph-plate of a gothic arch, thus registering the lateral relations.

The patient is now assisted in bringing the mandible back to the apex of the gothic arch, which is centric, and hold it. Plaster is mixed, the syringe filled and emptied between the check-bite plates. The plaster, when set, will result in a plaster check-bite of centric. This is re-

moved and so marked. If the directions that accompany the check-bite appliance are followed, these being very simple, the protrusive, right, and left lateral registrations can be carried out in similar fashion, marked accordingly, and the patient dismissed.

The gothic arch tracing, which is descriptive of the patient's range of mandibular movements, is not always symmetrical in design. One side of the arch may be longer than the other, or curved on one side and straight on the other. This is because some individuals can move the mandible laterally full length to one side, and very little or not at all to the other. Why this is so would require a discussion of the anatomical peculiarities of the structures of the temporo-mandibular relation, as well as a discourse on gnathodynamics, either of which subjects is out of the realm of this paper.

#### MOUNTING ON ARTICULATOR AND SETTING THE TEETH

The plaster check-bites are now returned to the laboratory with instructions to mount the casts on an adaptable articulator, adjust the instrument to the plaster check-bites, and record all registrations. The vulcanite trays are to be replaced with the original shellac base-plates and setting of the posterior teeth may now be completed. The lower teeth are to be set first, because the lower bicuspid and molars must be set on the ridge and never buccally to it. This applies especially to the first bicuspid, which may be set even a shade lingually to the ridge. The molars, too, must be set on the ridge and these should be narrow buccolingually so as not to overhang the tongue. The upper teeth are now ground and set to occlude with the lower to balanced occlusion in centric, protrusive, and lateral excursions.

Proper placement of the bicuspid, however, is most important as this region

is in the centre of the dentures and carries the brunt of the burden in the process of speech and mastication. To insure stability and equilibrium of the lower denture, these teeth must be free from any cusp interference so that in all the various movements of the mandible from centric into excentric, there will be smooth gliding in all directions. In this connection, let it be remembered that locked cusps and a deep close overbite of the anterior teeth not only upset the equilibrium of the dentures but work havoc with the soft and hard tissues, causing destruction and atrophy of the alveolar ridges, leaving only flabby tissue in their wake. For this reason, so-called anatomic teeth are not suitable for our purpose.

It is far better to use 20 degree posteriors or cusplless teeth. As far as efficiency of mastication is concerned, a cusplless tooth can be made to perform the function of mastication, not, as it has been presumed, only a cusp tooth would do.

Gysi states, "Gliding movements are very important, because artificial teeth which are supported only by the mucous membrane exert only a small portion of the vertical pressure possible to good natural teeth. The longer the horizontal gliding movements, the better also a knife, a file or a saw cuts. If a vertical pressure of seven pounds was applied, a string was cut through, but if a horizontal movement of 4 mm. (1/16 inch) was added, the same string was cut with only 3½ pounds of vertical pressure." "A vertical biting force directed against an oblique surface produces a *horizontal* thrust which tends to dislodge the dentures and accelerate resorption of the ridges." "If, for example, a vertical biting force of ten pounds acts on cusp facets with an inclination of 45 degrees, then this whole biting force is transformed into a horizontal *shift* of ten pounds. Even a cusp inclination of 25

degrees produces a horizontal shift of about 4½ pounds." "These findings make it easy for us to understand why dentists have had such poor results with molars with an inclination of 45 degrees."

At the next sitting the dentures are tried in the mouth and occlusion checked in all functional relations. Often at this time the patient will ask for some minor corrections of the anterior teeth; all such changes should be made at this sitting, but the case should not be finished until both operator and patient are satisfied that the dentures are mechanically and aesthetically correct.

The patient is dismissed and the final waxing begun.

In the past, very little attention had been given to waxing up the dentures. Waxing the dentures should not be considered merely as a means of holding the teeth together. Waxing up, in this technique, means giving the dentures proper form. Proper form, in this sense, is one of the four major factors in scientific denture construction that has to do with retention and stability in speech and mastication, the other three being impression, condyle path registration, and occlusion. To consider form for the lower dentures, it is necessary to consider the act of mastication. In this act the occlusal surfaces of the teeth, the cheek, and the tongue all have an equal part. When a bolus of food is taken into the mouth, an individual does not stop to select a suitable place on the occlusal surface where he could balance it. This may best be illustrated in a mouth where it so often happens that all the posterior teeth are lost, except the upper and lower second bicuspid, with which, the patient assures us, he masticates his food perfectly.

Does such an individual, every time he eats, stop to balance each bolus on the bicuspid? Decidedly not. As soon as food is placed in the mouth, it is directed by the tongue to the proper position on



the occlusal surface, when at the same time the cheek on the buccal side and the tongue on the lingual rise to form a trough. Both of these muscles, at this time under considerable contraction and pressure, rigidly hold the food where it is wanted by the tongue. When it is the pleasure of the tongue to change the course and engage the opposite side in the act of mastication, the tongue moves the bolus over, and it and the cheek on the other side form a similar trough in which the food is held in the process of mastication. The form of the lower denture, therefore, must be such that when the tongue and cheek rise to press inwardly from the opposite directions, there will be no resistance offered to the action of these muscles. If the buccal fold holds a wide enough plate over which the cheek can roll and press against the teeth, and the tongue on the other side can glide over the base of the denture toward the occlusal plane, without encountering overhanging molars, other factors being favourable, the denture will be held in place in the same manner as the food is held by these muscles.

On the other hand, if a lower denture is narrow at the base and wide at the top, or presents other obstacles to the action of the tongue, such a denture will be lifted every time these muscles contract to hold the food in process of mastication. Therefore, in waxing up a lower denture we must give it such form as would accommodate the action of the cheek, the lips, and the tongue, so that in a degree, the denture will be held down rather than lifted up each time the muscles contract. In a word, the lower denture must be wide at the bottom and narrow at the top.

On the lingual side it must rise from the base line evenly to the occlusal plane. On the buccal, back of the bicuspid, it must present a wide surface for the cheek to roll over. The lower lip, too, must be

accommodated so that it can rest on the anterior part of the base. The region of the cuspid and the first bicuspid, however, must be made decidedly narrow, to accommodate the corner of the mouth. The periphery of the whole denture must be thick and round. All that the upper denture requires is a thick and round periphery, including the post dam and the insertion of rugae. A feather edge should never be allowed at any place in the dentures.

The case is now returned to the technician for completion, with instructions to flask the dentures with the split cast remounting plates remaining on the casts. If there is a choice between vulcanite and condensite, the latter with all of its shortcomings should be the material of choice, if for no other reason than its aesthetic effect. After the dentures are cured, they should be remounted on the articulator according to recorded registrations, spot ground, and milled in.

If the technique described here is followed through, the finished dentures when inserted in the mouth will be found biologically, mechanically, and aesthetically correct.

We have attained a high degree of efficiency in the art and science of denture construction, but we strive for perfection and that goal has not yet been reached.

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# Problems in Practice

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Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

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## PROBLEM FROM NOVA SCOTIA:

Six months ago I made a red vulcanite denture for a patient who got along very nicely for about one month when she developed a very sore mouth. The whole vault was a dark, fiery red and bled readily on light contact. I remade the denture, using dark elastic rubber, but the patient again returned last week with the same condition. Is it the vulcanite, or what is the cause?

M. D. F.

## REPLY FROM QUEBEC:

I am of the opinion that this patient has an intolerance for vulcanite and I would suggest that the denture be made of some other material, preferably of metal.—J. S. Dohan, *Montreal*.

## REPLY FROM ONTARIO:

I do not believe the vulcanite denture, made either of red or dark elastic vulcanite, is the cause of the condition described in the question.

Many opinions have been expressed as to the cause of the above condition, including pressure on the three palatal foramina, and sometimes relief over these foramina may help some.

I personally believe that the condition is more frequently caused by bacterial growth.

In the case mentioned I would advise the patient to remove the denture on re-

tiring at night and, for a time, as much as possible during the day. On the removal of the denture from the mouth it should be thoroughly brushed with castile soap and immersed in water with a few drops of one of the chlorine preparations in it.

For use in the mouth a daily application of one per cent acriviolet is recommended. You no doubt can obtain this from your druggist.

The dye used is similar to the dye in an ordinary indelible pencil, and an efficient antiseptic may be obtained by dipping the moistened point of an indelible pencil in acriflavine powder and then agitating it in a little water. This will not be injurious to the mucous membrane.—J. Frank Giffen, *London*.

## REPLY FROM ONTARIO:

In regard to the sore mouth of the patient with the vulcanite denture, and assuming that it fits the tissue, I would submit that it is either one of two causes:

- (1) Non-tolerance of the sulphur content, or
- (2) No thermal conductivity.

I would suggest a different base.—A. V. Lester, *Hamilton*.

## REPLY FROM ONTARIO:

There may be one or more causes for this condition.

First, due to the porosity of the vulcanite, it is impossible to keep dentures hygienically clean.

Second, acid saliva being held in close contact to the mucosa, causes redness and irritation.

Third, too close adaptation to the tissues (tissue strangulation by pressure) with pressure over posterior and anterior palatine foramen, with heavy masticating pressure.

Fourth, idiosyncrasy of some people to the sulphur content of the vulcanite. This last one probably occurs in about one in two thousand cases.

The surface of the denture touching the palate should have a dense polished surface to help correct any of these conditions and can be made by tin-foiling or treating the cast before vulcanizing.

The first can be corrected by immersing the denture, once a week, in 50 per cent hydrochloric acid, and then in a saturated solution of soda bicarbonate, or immersing the denture in hydrogen peroxide for 15 minutes each day, and using a denture powder containing pumice, soap, chalk and soda bicarbonate.

The second can be corrected by using either a saline solution, milk of magnesia or soda as a mouth wash once or twice a day and using sodium chloride as a denture cleaner.

The third can be corrected by relief over the foramen and the use of a modeling compound impression with not too close peripheral adaptation.

The fourth can be corrected by using some other material as a phenol resin base or glass or metal base.

To hasten the healing process, the tissues can be painted with a solution of methylene blue or acriflavine, once daily. —*Frank L. Cole, Medical Arts Building, Toronto.*

#### REPLY FROM SASKATCHEWAN:

"This may be a pathognomonic symptom of a kidney disturbance, which may be attributed to an excess of urea in the form

of ammonia, present on the tissue underlying the full upper denture, the tissue having an appearance akin to the gluteal tissues of a baby, when the diaper has too long served its purpose. Wash the denture in vinegar and have the patient consult her physician for a skin test to verify the diagnosis."—(*Quotation from Dayton Campbell, quoting Francis H. Daley.*)—*W. Fraser Smith, Regina.*

#### REPLY FROM ALBERTA:

Other than tissue irritation caused by excessive pressure and a resultant infection, this condition as described may be due to a blood discrasia, of which the anaemias and leukemias are the most serious.

The history is not complete enough to warrant a positive diagnosis. A complete blood examination is positively indicated in any condition where pathology and spontaneous bleeding occurs where the cause cannot be identified.

To quote Taylor and Best, *Physiological Basis of Medical Practice*, 1937, page 149,—

"The term purpura is applied to a variety of haemorrhagic states in which spontaneous bleeding occurs beneath the skin, from the mucous membranes or into the joints. Since purpura is so varied in its character and occurs in diseased states that are so widely different, it should be considered as a symptom of a disorder of the blood vascular system rather than the disease in itself. It occurs in the malignant form of many acute diseases — smallpox, scarlet fever, diphtheria, streptococcal infections, etc. Subcutaneous and submucous haemorrhages are also features of scurvy, leukemia, certain anaemias and of the action of various toxic agents, e.g. snake venoms, drugs and chemicals. In most types of purpura (e.g. infectious and toxic forms) deterioration of the capillary walls prob-

ably plays the chief role—the red cells escaping into the subcutaneous tissues or from the mucous membranes through capillary defect . . . .”

In the above case, the chemical irritation from the substance of the vulcanite might be a plausible cause, if or when a blood examination is negative.—*Arthur Ahrens, Lethbridge. Reply forwarded by Leslie T. Allen.*

#### REPLY FROM BRITISH COLUMBIA:

Redness and soreness of the palatal tissue under an upper denture may be due to the following:

(1) Improper relief over the anterior and posterior palatine foramina.

(2) Lack of stability of the dentine resulting in vibration and irritation of the tissue.

(3) Infection from remaining pyorrhea teeth, carried under the upper denture by the saliva.

(4) Roughness of the palatal tissue due to hypertrophy reproduced in the new denture.

(5) Excessive post damming impairing the circulation.

(6) The taking of any drugs by the patient containing compounds of mercury. — *E. W. Hetherington, Victoria, B.C.*

#### REPLY FROM MANITOBA:

The case history of this patient being rather meagre, one can only surmise the several possible causes of the pathological condition of the mucosa of the palate.

(a) Lack of cleanliness. Oral hygiene is as necessary with artificial dentures as with the natural dentition.

(b) Intolerance to any form of vulcanite, due to the retention of heat under the denture, and the rubber.

(c) Local infection. If this patient has her natural lowers the possibility of Vincent's infection is a consideration. Under a vulcanite denture the conditions for the rapid growth of anaerobic spirochetes would be ideal, namely heat, moisture, and the lack of oxygen in the vacuum under the denture.

(d) The systemic condition of the patient might be investigated in order to find out if she has been under any mercurial or bismuth treatment. The possibility of an idiosyncrasy to these drugs might be a factor in her case.

(e) Stability of denture. If the ridge under the denture is soft and movable it would permit a constant friction with subsequent irritation.—*J. H. Greenfield, Winnipeg.*

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### *A Correction*

*The October, 1937, issue of the J.C.D.A. cited a problem in practice relative to the method of correction of the overbite in the anterior teeth of a sixteen year old girl.*

*One reply from Ontario (P. 530) suggested that following maturity no further vertical growth of the jaws might be expected and that a roentgenogram of the hand showing epiphyseal union of the radius and ulna provided a reliable index to maturity. While it is true that no further growth in stature occurs after epiphyseal union of these bones, it has recently been demonstrated that vertical growth of the bones of the face does not cease at maturity, but continues for two or three years thereafter. Therefore, the time for the commencement of orthodontic treatment to obtain optimal vertical growth in the jaws is extended by at least one or two years following epiphyseal union of the radius and ulna, and the scope of orthodontic service for such cases is proportionately increased.—G. Vernon Fisk, Toronto.*



# The Forum

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## ● REMOTE SEQUELAE OF PARODONTAL INFECTION

by E. WILFRED FISH, M.D., D.D.Sc., S.Sc.

THE theoretical position is that the bacteriemia of pyorrhoea is only of danger to a patient suffering from active, non-infective endocarditis, or, in the case of a healthy patient, if trauma to a bone should occur at a moment when the organisms are present in the vessels at the site of such injury. Three clinical cases of the former catastrophe have come within the author's experience recently, while the clinical incidence of "dry" socket is strong evidence of the latter view since it occurs only when the bone is badly bruised at the moment of extraction, that is, at the moment of invasion by organisms. It has, in recent months, been entirely eliminated from the author's practice by cauterizing the gum margin in doubtful cases before extraction.

The chronic toxic absorption into the tissues is, however, a more constant menace, though perhaps not so dramatic. Not only do the soluble toxic products of the organisms' activity in the sulcus diffuse into the periodontal membrane and alveolar bone and therefore destroy the attachment of the teeth but, being taken into the general circulation, they are liable to irritate other remote tissues, as shown by Dr. Graham. The defence against this poison is twofold. The round cells, chiefly lymphocytes, which infiltrate the parodontal tissues are a response to the presence of the poison locally, and presumably destroy it to some extent, otherwise they would hardly be likely to be so constantly attracted by it. Secondly, much of the toxic matter is carried away

by the lymph-stream as is shown by the chronic lymphangitis which surrounds the lymphatics. This poison will, therefore, meet a further large number of lymphocytes in the lymph-nodes.

There is, however, a mass of clinical evidence that a considerable amount passes into the general circulation, and before it is ultimately destroyed in the liver and kidneys, which form the second line of defence, it may irritate any tissues which are inherently susceptible and temporarily sensitized, such as joints and fibrous tissue generally. It is significant that these structures are composed of the same type of connective tissue as the parodontal tissues themselves. Moreover the morbid changes in infective arthritis, which include bone absorption and "sclerosis" or lipping, round-celled infiltration, and fibrous tissue breakdown or hypertrophy (Willcox) are very similar to the changes which occur in the parodontal tissues in response to irritation from the toxic material in pyorrhetic pockets.—*Excerpt from Proceedings of the Royal Society of Medicine, Great Britain, July, 1937.*

## ● TREATMENT OF ORAL INFECTIONS WITH ULTRA-SHORT WAVES

by J. S. OARTEL, M.S., D.D.S., F.A.C.D.,  
*School of Dentistry, University of Pittsburgh,  
Pittsburgh, Pa.*

TREATMENT of infected root-canals with ultra-short waves continued; satisfactory results. To date, twenty-five cases treated; generator operated on wave length of six meters with 175 watts output. One case, two teeth so treated;

sterile for fifteen months. Rarefied areas about apices filled with new bone. Treatment valuable in osteomyelitis, pulpitis induced by mechanical irritation, Vincent's Infection, and streptococcal infection of oral mucous membranes. — *Journal of Dental Research*, August, 1937.

## ● ALCOHOL CONTAINER

by S. G. McCaughey, D.D.S., Ottawa, Ontario

("This is complementary to the article on "Gadgets" appearing in the September issue of the Journal.)



Marmalade jar adapted as alcohol container.

a. cover, b. cotton wipes, c. pint gem jar or sealer rubber gasket, d. glass slab slightly smaller in circumference than inside of jar, e. alcohol, f. dappen dish supporting glass slab. Evaporation of alcohol within the covered jar keeps wipes wet after they have been moistened. Wipes are used to wipe off the pulley of the handpiece (that part of the handpiece which is contaminated only by the operator's hand) thus completing the "chain" in hand-piece sterilization.

## ● SUGAR RETENTION IN THE MOUTH

By GEORGE W. TEUSCHER, D.D.S.

(Conclusions of a paper published in *Northwestern University Dental Research and Graduate Study Quarterly*, Winter Quarter, 1937.)

### CONCLUSIONS

1. There is a gradual disappearance of sugar from the saliva after the consumption of various sugar-containing foods.
2. The rate at which the sugar is removed from the saliva varies with individuals, and there is a tendency for patients more susceptible to caries to retain the sugar longer than those patients not very susceptible to dental caries.
3. Sugary desserts and candy resulted in a larger percentage of sugar remaining a longer time in the mixed saliva.
4. The chewing of gum after mastication of carbohydrate resulted in a more rapid disappearance of sugar from the mixed saliva.
5. It might be well in some cases to reduce the amount of carbohydrate taken as food in order to control dental caries.

## ● YOU SHOULD COMPLAIN ABOUT YOUR DUES !!

|                            | Initiation | Annual Dues |
|----------------------------|------------|-------------|
| Medical Society .....      |            | \$35.00     |
| Bar Association .....      |            | 16.00       |
| Osteopaths .....           |            | 27.00       |
| Opticians .....            |            | 18.00       |
| Chiropractors .....        |            | 13.00       |
| Printers .....             | 2% Salary  |             |
| Garage Attendants .....    |            | 15.00       |
| Carpenters .....           | \$40.00    | 21.00       |
| Oil Station Attendants ... | 10.00      | 30.00       |
| Twin City Rapid Transit    | 50.00      | 18.00       |
| Boilermakers .....         | 15.00      | 24.00       |
| Plasterers .....           | 75.00      | 24.00       |
| Electricians .....         | 27.00      | 54.00       |
| Painters .....             | 50.00      | 24.00       |
| Dental Society .....       | None       | 11.00       |

—Northwest Dentistry 7-37—A.D.A. Press Release Service.

• **SOCIAL SECURITY PROGRAM**

by ARTHUR J. ALTMAYER, Chairman,  
Social Security Board

THE Social Security Act represents our first systematic effort to attack the problem of human want and suffering on a nation-wide front. It is our first attempt to forestall destitution, as well as to mitigate its ills. On both these counts—in its character as a national program and as a preventive program—the Act marks a great advance toward security. But in addition, the Act has a third distinctive characteristic, less obvious perhaps, but equally important, and of special significance to you who are members of one of the great healing professions. This is its recognition of the fundamental relationship between physical well-being and economic welfare.

Under the public health title of the Act, Congress is authorized to appropriate \$8,000,000 annually to be allotted to the States through the Public Health Service. Grants are made to each State on the basis of its population, financial need and special health problems; these grants are for the purpose of assisting States, counties, and local health districts in the establishment and maintenance of adequate health services, including the training of personnel for State and local health work. The Act also authorizes an annual appropriation of \$2,000,000 for scientific research conducted by the Public Health Service. For the first time, the importance of public health protection as an element in national security has thus been fully recognized by the development of a national policy for the strengthening of State and local health agencies.

The annual Federal appropriation authorized for maternal and child health is \$3,800,000 and that for services to crippled children, \$2,850,000. In making allotments to States, the number of infants and children in need of these

services and the financial need of the States for assistance in carrying out the State plan are taken into consideration. All the States are participating in the maternal and child health program and all but six have developed co-operative plans for services for crippled children. In addition, an annual appropriation of \$2,040,000 is authorized for the vocational rehabilitation of persons who have lost their earning capacity through permanent physical disability, and 47 States, the District of Columbia, and two territories are now participating in this Federal-State program.

—Excerpt from address given at Atlantic City before the A.D.A. per *Journal of the Missouri State Dental Association*.

• **MEASURES WHEREBY THE PUBLIC MAY CONTRACT COLDS MOST READILY**

TO catch a cold, the aspirant may with much confidence adopt the following measures.

Seek out crowds and stuffy, overheated rooms; try to make close contact with others, particularly coughers and sneezers; breathe through the mouth as much as possible; induce prolonged chilling of the body whenever expedient; lower vitality by curtailing sleep; abuse alcohol; sedulously avoid the use of citrus fruits and vitamin A sources, etc.; do not wash the hands before eating; convey infection into the nose with the fingers; be sure to instil "drops" or to use some spray at the first sign of a cold, so as to demoralize the cilia that direct drainage; when one feels that a cold is on its way but that the organism is successfully resisting it the aid of aspirin should be invoked to "turn the tables" just sufficiently, for this drug, in addition to its coal-tar effects, will lower the alkali reserve and produce an acidosis (Cushny, *Textbook of Pharmacology and Therapeutics*, 1936, Lea and Febiger).—Per *The Medical Times*.

## • DENTAL CARIES

by H. J. SCHOEMAN, B.A., D.D.S., South Africa

MAN is but the product of the soil on which he lives. South African pastures have all been proved to be deficient in phosphorus.

In all four groups of the T'Zitzikama area, the environment is the same but the diet different. As from the observations recorded it would seem that caries is much more prevalent in those parts where the people have, so to say, no marine diet. We admit that the highly carbohydrate diet eaten by most of the people under consideration may be a contributing factor, but our contention is that the main factor is a diet that is not rich in mineral matter.

In the Karroo, though the soil is rich in minerals, they are not well balanced and phosphorus is scanty. Along the lime belts north of Kimberley phosphorus is lacking and the people have caries.

One would like a dental survey of the Union to be made and correlated with the different soils on which the people live.

It is questionable how much of the calcium, etc., of the many products on the market to-day is taken up by the body. We believe that the tablets which we had made ourselves, containing calcium gluconate, dicalcium phosphate and iodine may prevent a catabolic waste of these minerals, but it is difficult to claim that the calcium and phosphorus thus presented will be assimilated.

The assistance of the Agricultural Department should be called in to help with the fertilization of the soil. The church should be called upon as well as the

Education Department to educate the people to new habits of diet and living. The problem is not merely to provide for extraction of carious teeth to relieve pain, but to change the habits of the people, set up a system of fertilizing the soil, and what is more, get the people to eat what the sea offers.

—*Excerpt from paper read at the National Congress of the Dental Association of South Africa, Johannesburg, December, 1936, per South African Dental Journal.*

## • HEALTH INSURANCE

DURING the twenty odd years in England, and the fifty odd years in Germany, of the working of this system of Health Insurance, numerous new hospitals have been erected and many of the present ones enlarged. Likewise, many mental asylums and sanatoria have been erected; and all are overcrowded. But still the sick are as numerous as ever. Why should this be so? For an answer we turn to what Arnold White said when writing on the prevalence of disease some years ago in "The Views of Vanoc": "The conclusion appears to be that the unequal division of the science of war against disease into ninety per cent. of troops being mobilized for defence and only one per cent. for attack, is poor strategy." Moreover, this same writer went so far as to say "that if every patient in every hospital in the Kingdom were discharged cured next Saturday, we should be no nearer national health than we are to-day. The hospitals would be full again on Monday week."—*By Norman K. Cox, M.D., D.D.S., in New Zealand Dental Journal, March, 1937.*

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*"We judge ourselves by what we feel capable of doing; others judge us by what we have done."—Longfellow.*





to the public whom we serve." This short quotation is not only quite striking but also quite challenging.

It has been intimated both from the platform and in the press that government regulation of business in the United States in so many ways and by so many laws has been throttling private enterprise and initiative. It is stated that in 1929 three billions of dollars of surplus private capital was spent in promoting wealth producing enterprises. In 1936 the amount had dwindled to three hundred millions. In the interval, however, the Federal Government of the United States had found it necessary to spend thirty billions (an amount approximately equal to that of withdrawn surplus private capital) to bolster up relief and employment. In other words, as private endeavour declines, so the government assumes responsibility for providing goods, services, and employment. Indeed, people everywhere are becoming more dependent on governments to do things for them, resulting in a decreasing desire to look out for themselves. Furthermore, there seems to be considerable intolerance; everyone has emphatic opinions of his own as to how things should be done. There seems to be no regard for facts save those which will give support to personal opinions.

There should be no argument as to the right or wrong of influences deterring individual initiative. Whatever is wrong should be removed. It has been said that it is fear of what new regulations of business may yet be evolved which makes leaders of industry assume a "wait and see what happens" policy. On the other hand, if these same leaders sit back too long, nothing else remains for the government to do but provide for its more unfortunate citizens and this applies not only to business and industry but also to the health professions.

It might be suggested that the foregoing has to do with conditions in the United States and not Canada. While that is largely true, it must be conceded that because of the close proximity of the two countries, influences affecting the people of the larger nation would certainly be reflected here.

In so far as the profession of dentistry is concerned, is it prepared to meet the problem of providing dental health services for all classes of people? Are the leaders of organized dentistry pursuing a "wait and see" policy, and permitting the Dominion government, or should one say each provincial government, to enact a plan for them? Such a solution of the problem might not be in the best interests of either the people or the profession.

There should be no doubt where the responsibility lies in respect to solving problems relating to dental health and it would seem that this is a time for some real constructive thinking. Is the present method of private practice adequate to carry service to all who need it, or would a government sponsored system of dental service do better? There are arguments in favour of both sides. In one case, however, there is a tried system built on sound, fundamental, ethical principles in use for many years with considerable success, and on the other hand there is a system of questionable merit if one can judge from reports of experiences in European countries. Perhaps the system best known

to us, that of private practice, could be revised, with a special effort in mind to provide a good dental health service for the low wage earner.

There is ample evidence all over Canada that dentists are thinking of this problem, bearing in mind a fair deal for all. If ever a situation demanded a national policy, surely this one does. A co-operative Canadian profession, through able national leaders, taking cognizance of suggestions from small groups and larger groups throughout the country, might lay down a practical, fundamental plan to be the objective in all sections of the Dominion. Not a passive, "ready, aye, ready" policy, but an active policy definitely committed to seek a solution. One must not be unmindful that the present committee on State Dentistry in the C.D.A. has done some excellent work, but the members will be the first to admit that much more can and should be done.

What is ahead for dentistry? That depends on many factors, some within and some beyond our control. One thing there must be and that is a well qualified, far-sighted, energetic leadership in a strong national organization, properly financed, staffed, and supported by every Canadian dentist. Failing this, we sit on the sideline waiting, hoping we are prepared for eventualities—drifting. United we progress, divided . . . ? ? ?

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## **Ontario Resolution**

At the Board meeting of the Royal College of Dental Surgeons held in Toronto on October 27, an epochal resolution as affecting Canadian dentistry was adopted. It was agreed that the entire responsibility of the Ontario financial support of the Canadian Dental Association would be taken over by this Board, to the extent of paying one dollar for each member of the profession, in good standing, in Ontario, for the year 1938. It was further agreed, as stated in a genuinely cordial letter by the President, Dr. Ernest C. Veitch, that the C.D.A. be assured, that in conjunction with the other provinces, Ontario would support the development of a strong national association. The continued and increased support from Ontario will be dependent upon the progress made in developing an Association worthwhile in the broadest sense and which can be made to appeal to the members of our profession.

Nowhere in Canada are conditions so favourable for a self-contained, local program of dental activities as in this great province of Ontario, containing nearly half the dentists of our Dominion. It is now a matter for national rejoicing that the official Board of this province, with a national vision, has been seized with the importance of extending its helpful influence beyond the confines of its own environment.

The fact that the legal body is now assuming full control is also a matter which will meet with a most hearty response in the minds of dental leaders throughout Canada.

At the earliest possible moment could we not make a special effort to have the dues raised to one dollar from coast to coast in 1938? This would give a definite impetus to the work of our national association. It is obvious, of course, that one dollar or twice that amount will not place the Canadian Dental Association in a position where it can function effectively in the interests of the dentists of Canada and the public which it serves, but it will, we trust, start the ball rolling in such a direction, that eventually we shall have a national body which will command the respect, the loyalty and the hearty support of every dentist in this great Dominion.—*M. H. G.*

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## **Food for Thought**

Our Ontario editor, Dr. T. R. Marshall, in his able and timely editorial appearing in this section of the Journal states a very pertinent fact as follows—"Dentistry in Canada demands a well qualified, far-sighted, energetic leadership in a strong, national organization, properly financed, staffed and supported by every Canadian dentist."

In the face of this deal it is interesting to observe that on November 16, as C.D.A. delegate for Manitoba, I received a circular letter from the secretary of the C.D.A. announcing that the various Provincial Executives of the Medical Association have been asked to send, at once, to their secretary, Dr. Routley, their suggestions for a brief to be presented to the Rowell Commission and furthermore stating that the Canadian Medical Association is planning to keep in close touch with the sessions of this Commission.

Dr. Bagnall also states that any brief prepared for the consideration of the Commission must be in Ottawa by January 1, and that the case must be presented to the Commission by a representative, appearing personally before the Commission at a later date in January.

Public Health will be the subject of consideration and the Commission will welcome the submission of briefs by national organizations, as opposed to sectional organizations.

Dr. Bagnall submits the following questions—"Can anything be presented to dentistry's advantage before the Commission?" "Is the C.D.A. in a position *financially* to present such a brief?" "Has the C.D.A. a scheme of dental health which should be placed before this Commission as a part of the larger problem of Federal Health?"—"If so is it possible to present this scheme?" He has been advised that any plan presented would be strengthened if it were accompanied by a plan of administration.

In an emergency such as this, that the C.D.A. secretary should have to raise all of these questions, particularly the one about finances, seems indeed deplorable and it is to be sincerely hoped that ere long this problem, at least, will be relegated to the past, where it belongs.

Departments of Health are under provincial control at present. What changes, if any, may result in federal-provincial relationships from the work



of this Commission are unpredictable at present. It seems only possible at this time to say that we are passing through rapid changes in such allied problems as relief, unemployment insurance, health insurance and state medicine and dentistry. It would appear that any suggested plan would have to be of a Dominion-wide nature, without interference with the constitutional rights of the various provinces.

Just what organized dentistry can do remains to be seen. The secretary has attacked this problem immediately and energetically. The C.D.A. Committee on State Dentistry submitted a very able report at the last Delegates' meeting in October, 1936. Since then it has been in active service and the National Association will naturally look to it for leadership at this time, believing that it has the matter well in hand.

I repeat—the C.D.A. delegates who have charge of all these matters met a year ago last October and do not expect to meet again until next July. Why? The answer is again *finances*, which must give each one of us most serious "Food for Thought."

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## NEWS FROM THE PROVINCES

### ALBERTA:

#### Court Cases

*Re: Norman Mallard*—Following an investigation of a complaint that Norman Mallard, operating the Mallard Dental Laboratory at Medicine Hat, Alberta, was infringing upon the Alberta Dental Association Act, he not being registered or licensed so to do, an Information was laid and the charge was heard by Magistrate Bell on Thursday, the 7th of October. After evidence had been presented by the Association's solicitor, A. Blair Paterson, G. M. Blackstock, Esq., K.C., of Medicine Hat, representing the accused, a fine of \$50.00 and costs was levied.

*Re: Alexander H. McGregor*—The Alberta Dental Association laid a charge against Alexander H. McGregor, of Calgary, conducting the McGregor Dental Laboratory, McLean Block, for an infringement of the Dental Act, it being contended that McGregor was practising dentistry, not being licensed to do so. The charge was heard before Magistrate Cameron Sinclair, of Calgary, Thursday, the 21st of October. A. Blair Paterson, general counsel for the Alberta Dental Association, handled the prosecution.

At the conclusion of the case for the prosecution, the counsel representing Alexander H. McGregor requested an adjournment until Friday for the purpose of considering the defence evidence to be given. Following the close of the defence on Friday, the 22nd of October, Magistrate Cameron Sinclair found Alexander H. McGregor guilty of an infringement of the Alberta Dental Association Act, and fined the accused \$50.00 and costs.

*Re: John Payne*—A charge had also been laid against John Payne, a partner or employee of McGregor who had recently come from British Columbia. On the return of the Information and Complaint, in the first instance, John Payne appeared before the Magistrate and requested an adjournment of one week. On the expiration of the week's adjournment, Payne failed to put in an appearance at Court, and, on the application of A. Blair Paterson, counsel for the Alberta Dental Association, a Bench Warrant was issued for his arrest.

It may have been that John Payne returned to British Columbia, but should he ever set foot in Alberta, the Warrant for his arrest will be executed.

**SASKATCHEWAN:**

**Doctor and Mrs. Fasken Honoured**

On the evening of November 1, 1937, the members of the Council of the College of Dental Surgeons of Saskatchewan, on behalf of the members of the profession in the Province, made a presentation to Dr. L. J. D. Fasken and Mrs. Fasken, of a suitably engraved Sheffield silver tray, commemorating thirty years of service to the profession in the Province by Dr. Fasken, not only as a member of the Council, but as secretary for that length of time. Thirty years of diligent and painstaking service, which has been a connecting link between the members of the profession at large and the Council as its membership changed from year to year.

No doubt to many dentists throughout the Dominion, to those in the Province of Saskatchewan and especially to those who have served on the Council with Dr. Fasken, this gesture on the part of his confrères will be gratifying.

Dr. L. J. D. Fasken, through his duties as secretary of the Council, has become acquainted with every man and woman in practice in the Province and has been remembered and respected by them for his ever-ready co-operation and for his courteous and kindly manner, whether it be in an official capacity during "office hours" or in the Fasken home where many members of the profession and their wives have been hospitably received by Dr. and Mrs. Fasken on many, many occasions.

Lorne Fasken began the study of dentistry at Fergus, Ontario, being articled as a student with the late Dr. G. Alton Reid. Graduating from the Royal College of Dental Surgeons of Ontario in 1905, he came to Regina, Saskatchewan, in July of that year and has practised in that city ever since. He was elected to the Dental Council of the Province in July, 1907.

On May 25, 1910, he married Laura E. Rothwell, a lady with a very charming and gracious manner (and, by the way, an artist of note) who has at all times proven herself a willing worker in community and charitable enterprises and a co-worker and help-meet with her husband. Their family consists of a son, Norman, connected with the School of Science,

University of Toronto, and a daughter, Miss Lorna, at home.

**Annual Meeting of Council**

At the annual meeting of the Council of the College of Dental Surgeons of Saskatchewan held recently in the office of the Secretary-Registrar in Regina, the following officers were elected for the year:

President, Dr. D. J. Brass, Yorkton; Vice-President, Dr. P. W. Winthrope, Saskatoon; Secretary-Registrar, Dr. L. J. D. Fasken, Regina.

The other members of the Council are Dr. W. W. Irwin, Moose Jaw; Dr. E. W. Mounter, Regina, and Dr. W. Fraser Smith, Regina.

**Hockey Chief**

Dr. J. P. Whyte, of Swift Current, will be Saskatchewan's No. 1 Hockey man this winter. He was elected S.A.H.A. president, October 30.

**MANITOBA:**

**Winnipeg Dental Society**

The regular meeting of the Winnipeg Dental Society was held on November 5 at 6.15 in the Medical Arts Club rooms with Dr. C. M. Truman presiding. The address of the evening was given by Dr. Ross Mitchell, a prominent physician of the city, upon the subject, "Diet During Pregnancy."

**ONTARIO:**

**R.C.D.S. Resolutions**

"That this Board assume the responsibility for payment of a membership fee of \$1.00 per member in the Canadian Dental Association for 1938 for all members in good standing in the dental profession in Ontario and that the Canadian Dental Association be assured of full support in conjunction with the other Provinces in the building of a strong national organization of a permanent character."

"That the Board of the Royal College of Dental Surgeons, having assumed for the year 1938 the entire support for Ontario of the Canadian Dental Association activities, would suggest to the Board of the Ontario Dental Association that this action would leave their Association free to carry on a greater share of

the program of Public Dental Health Education, and that the secretary be instructed to so inform the Ontario Association."

"That if the Ontario Dental Association discontinues its grant to the Canadian Dental Association, Dr. S. A. Moore, of London, be appointed by this Board on the Board of the Canadian Dental Association as the second representative from Ontario."

W. E. WILLMOTT, Sec'y. R.C.D.S.

### **Coronation Medals**

Coronation medals have been awarded to the following dentists in Ontario: Dr. M. T. Armstrong, member of provincial government from Parry Sound; Dean Arnold Mason of Faculty of Dentistry, U. of T.; Col. W. G. Thompson, Director of dental services in Ontario; Dr. W. G. Trotter, Dr. Arthur Ellis, Dr. Fred C. Husband, all of Toronto, and Dr. Percy Moore, of Hamilton. All recipients of the honour except Dr. Armstrong constituted the committee appointed to advise the government in administration of dental relief in Ontario.

### **Hamilton Dental Society**

The Hamilton Dental Society held its first meeting of the year on October 27. Dr. Russell Smith, of East Aurora, was guest speaker, his subject being "Radiography." The meeting was attended by nearly 100 members and guests from the city and nearby towns and cities. President Dr. C. G. Stewart is supported by the following officers for this year: Dr. J. A. Cummer, Vice-President; Dr. C. T. Mason, Secretary; Dr. Gordon M. Jackson, Treasurer. The program arranged thus far is as follows: December 10—Dr. Jos. Schaefer, of Chicago.

Subject, "Acute Infections of the Mouth."

February 8—Dr. J. G. Coggan, of Detroit.  
Subject, "Amalgam."

March 1—Dr. J. D. McCall, of New York.  
Subject, "The Modern Programme for Prevention of Dental Disease."

January meeting—To be arranged.

Dr. Grant Countryman, formerly of Saskatoon, has located at 204 Kresge Building, Hamilton.

### **Special University Convocation**

A gesture of international goodwill and esteem was held at Toronto on October 22. It was during a visit of the Hon. Cordell Hull, Secretary of State of the United States, to Canada. Toronto University held a special convocation and bestowed upon him its highest academic degree—"Doctor of Laws" *Honoris Causa*. President Cody having made a very able address of introduction, presented Hon. Mr. Hull to Chancellor Sir William Mulock to receive through him, from U. of T., its academic honour and tribute. Mr. Hull, in his reply, responded with a message pleading for peace. It was a message spoken to the world, but delivered to an audience of distinguished Canadians gathered with his Excellency, Lord Tweedsmuir, His Honor Dr. Bruce and Prime Minister Mr. Mackenzie King, to do honour to one of the foremost citizens of the United States.

### **Toronto Academy of Dentistry**

The annual dinner of the Toronto Academy of Dentistry, held in October each year, marks the beginning of the year's activities. Much effort, enthusiasm and planning always goes into this meeting because the officers are anxious for as much interest on the part of the profession as possible. In this connection it is unfortunate that our dental organizations depend upon voluntary membership; so often a real inspiration emanates from such meetings which tends to lift one from the level of a dentist to that of a Dentist with a capital "D" and the attendant ideals of a truly great profession. Some 270 members and guests attended. Mr. Merle Thorpe, Editor of "The Nation's Business," official publication of the U.S. Chamber of Commerce, was guest speaker of the evening. Among those occupying places of honour at the first table were: President, Harvey Reid; Mayor Robbins; Dr. Chas. Hare, President of Academy of Medicine; Col. W. G. Thompson; Dr. Clarence Routley, Secretary C.M.A.; Dr. Stephen A. Moore, President-elect of the C.D.A.; Dean Mason; Dr. E. C. Veitch, President Board of R.C.D.S.; Dr. Sydney Woollatt, President O.D.A.; Mr. A. W. Laver; Dr. Gordon Jackson, M.O.H. of Toronto; Sir Hugh Acland, Consulting Surgeon of Christ Church Hospital, New Zealand;

Dr. Chas. Stewart, President Hamilton Dental Society, accompanied by Dr. Carl Moyle, Gordon Jackson and Dwight Coons; Drs. Harold Clark, Walter Willmott and A. J. McDonagh, Honorary Life Members; Dr. S. S. Crouch, Immediate Past President, and Dr. Harold Hoag, President-elect.

Dean Arnold Mason presented Dr. S. S. Crouch with a Past President's jewel, a custom inaugurated some years ago by the Academy. Dean Mason paid tribute to Dr. Crouch's contribution to dentistry, not only as President of the Academy but also as a member of the Dental Faculty of the U. of T.

#### **London Dental Nurses' and Assistants' Association**

The London Dental Nurses' and Assistants' Association held their last meeting on Saturday, October 23rd, at the Highland Golf Club.

This meeting was the annual dinner of the London Chapter, with all members present and guests from Toronto, Hamilton, Woodstock and Windsor, representing their various Chapters.

Mrs. Marion Edwards, of Toronto, President of the Ontario Dental Nurses' and Assistants' Association, addressed the meeting. She told of her recent visit to the American Dental Assistants' Convention held in Atlantic City, in September. This was most interesting and greatly enjoyed by all.

The visiting representatives were also guests of the London Chapter to breakfast Sunday morning at the Hotel London, leaving shortly after for their respective homes.

MILDRED M. GRANGER,  
*Corresponding Secretary.*

#### **Dental Nurses' Alumnae Association**

The regular monthly meeting of the Dental Nurses Alumnae Association was held on November 9 at the Women's Union, St. George St.

The guest speaker, Mrs. Anna Fraser, spoke on "The Art of Make-up."

At the close of the meeting refreshments were served and a social hour was enjoyed by all present.

PHYLLIS SANDHAM,  
*Corresponding Secretary.*

#### **QUEBEC:**

##### **Mount Royal Dental Society**

Dr. Lehman, of Los Angeles, Calif., was guest speaker at the Mount Royal Dental Society meeting on October 1.

Selecting as his topic "The Simplification of Full Upper Denture Construction," Dr. Lehman carried through his technique for the building of upper dentures and illustrated his remarks by means of study casts and demonstration models.

Dr. A. S. Solomon was in the chair.

##### **Kinsmen Club**

Members of the Kinsmen Club of Montreal have undertaken to be responsible for providing the children of the Rosemount Health Centre with dental care.

##### **Dental Nurses and Assistants**

The Montreal Dental Nurses' and Assistants' Association held two meetings recently, the first, on October 5, when the clinician was Dr. G. P. Kelly, orthodontist. He gave a very instructive demonstration of his impression taking technique, which included the duties of the assistant, his method of presentation being unique as it was all in the form of a very splendid motion picture. After showing this film Dr. Kelly allowed members to view numerous examples of his still photography. Photography is the Doctor's hobby and some of his work could be classed as perfection itself.

The second meeting was held on Nov. 2, and was under the auspices of the Abbott Laboratories Ltd. Three of their representatives addressed the gathering, telling the members how many of their products were manufactured and explained fully their uses in the dental office.

##### **Montreal Dental Club**

Dr. J. C. MacMillan of the department of ophthalmology, Royal Victoria Hospital, was essayist at the October meeting of the Montreal Dental Club. He spoke of the eye, its anatomy, its diseases, its care, the reasons of impaired sight, the method of correcting impaired sight, and the relationship of dentistry to ophthalmology.

Dr. MacMillan's address was delivered in



such a concise manner that ample time was allowed for questions and discussion, and the members made full use of the opportunities presented to bombard the Doctor with questions.

An added attraction at this meeting was the presence of Mr. Sumner Moore, of London, England, who gave an informal talk about dentistry in England, its trials, its advances and ended with the plea for more co-operation between the profession in Canada and the Mother Country. He suggested that Canadian universities take immediate steps to provide extension courses for dentists from the British Isles.

A resolution was passed, selecting the Seignior Club as the locale for the annual winter meet, and also naming December 15 next as the date for the annual meeting, at which time Dr. D. J. Berwick will be made an honorary life member of the club.

Dr. H. M. Butt, B.A., D.D.S., McGill '31, who carries on the practice of dentistry in Poona, India, has been spending his holidays in and about Montreal. Dr. John VanVliet, McGill '35, is at present in Poona looking after Dr. Butt's consulting rooms.

#### **NOVA SCOTIA:**

##### **Halifax Dental Society**

The following officers were elected at the annual meeting of the Halifax Dental Society, held early in October in the Nova Scotia Hotel:

President—J. F. Griffin.

Vice-President—A. A. Dunlop.

Secretary-Treasurer—E. W. Bainstead.

#### **BRITISH COLUMBIA:**

##### **Vancouver Dental Society**

The October meeting of the Vancouver Dental Society was held, with a record attendance, and the future prospects for a very active year are encouraging, under the able leadership of Dr. Harry Grant.

Dr. Howard Spohn, M.D., one of Vancouver's able and progressive children's specialists, gave a most interesting and instructive talk on his "Observations in European Cities and Clinics." He described how the University of Vienna was the finest post-graduate university in the world and how the professors gave their entire life to the advancement of medicine, making a

comparison to the Jesuit Order of the Catholic Church. All lectures are given in perfect English. "No university teaches pathology like the University of Vienna," and their clinical work is assisted by the use of hospitals with 20,000 beds.

His interesting description of his experiences in Poland and Russia held his audience spell-bound. The advancement of Sweden in its co-operative movement is a lesson to the world.

The Society stood in reverent silence, in honour of Dr. Harlem W. Noble, age 35, who passed away, in the Kamloops Hospital, October 31. Dr. Noble was one of Vancouver's able and active practitioners. He graduated from the North Pacific College, Portland, Oregon. He was an active member of the Masonic Lodge, Gyro Service Club and Delta Sigme Delta fraternity. He held office in the executive body of the Vancouver Dental Society. He is survived by his widow and two children.

##### **Pacific Coast Dental Conference**

The Executive Council of the Pacific Coast Dental Conference met in Vancouver, Sept. 25, with all councillors present. Reports of all committees were given and passed upon. The outstanding policy adopted was the financing of the Conference without any financial assistance from the manufacturers. The manufacturers will have their usual exhibits, but they will be under control of the Executive Council.

The dates are the week of July 4, 1938. An elaborate program, under the chairmanship of Dr. W. J. Bruce, has been practically completed, with golf on the New Capilano Golf Course, on the north shore, and entertainment for all the guests. This will be one of the largest meetings ever held in Canada.

All dentists who are in good standing with their Provincial or the Canadian Associations will be welcome, upon the payment of the registration fee. Apart from the wonderful program which will be presented, British Columbia affords, from a scenic standpoint, attractions which are unsurpassed. This is Canada's premier playground and for those who have never visited B.C. these combined attractions will long be remembered as an outstanding holiday.

## EMPIRE NEWS

### AUSTRALIA:

#### Dental Health Education Department of the N.S.W. Branch

During the past year 2,107 entries were received in the School Dental Essay Competition, an increase of 670 over last year, from 43 different schools in New South Wales. Prizes to the value of £30, donated by the Association, were presented during Health Week, October 29 to November 7.

### SOUTH AFRICA:

#### Industrial Clinics

The South African Iron and Steel Corporation has come to an agreement with the Pretoria Branch of the Transvaal Dental Association under which it will provide free dental services for its apprentices and labourers (including their dependents) to the extent of extractions, plastic fillings, prophylaxis, treat-

ment of gingivitis, pyorrhea and other mouth infections, root treatments, extractions for purposes of orthodontia and all other general dental needs, including vulcanite dentures.

The services detailed will be rendered at the Pretoria Dental Clinic by an open panel of dentists who will be remunerated at the rate of a guinea a session from a fund that will be maintained by payment into it, by the Corporation, of a shilling a head a month.

The agreement means that about 2,000 indigent or semi-indigent persons will now be served in a public institution in a way satisfactory to the employer, to themselves and to the profession.

All other classes of employees will have dental services from the private practitioners of Pretoria at their own surgeries, at a fixed scale of fees, under an arrangement in which the company undertakes to effect payment of dentists' accounts in full.

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## GENERAL NEWS

### University of Toronto

#### Faculty of Dentistry

##### *Post-Graduate Courses, April 1938*

Two post-graduate courses, open to graduates of any recognized university, will be given by the Faculty of Dentistry of the University of Toronto as follows:

*Periodontia and Radiodontia*—beginning Monday, April 4, 1938.

*Operative and Preventive Dentistry*—beginning Monday, April 18, 1938.

Each course will cover one month, two weeks of lectures and demonstrations, after which the registrant may, if he so desires, remain for clinical observation and practice.

The fee for each course will be \$100.

#### *Periodontia and Radiodontia*

This course will be given under the supervision and direct instruction of Harold K. Box, D.D.S., Ph.D., and S. M. Richardson, D.D.S., assisted by C. H. M. Williams, D.D.S., B.Sc. (Dent.), and D. M. Tanner, D.D.S., B.Sc. (Dent.).

The lectures will embrace a study of the adaptation of the periodontal membrane and supporting bone to changed functional conditions; the problem of tightness of the teeth; and the relation of mobility to simplex and complex periodontitis; the various theories of pocket formation, and the factors that tend to

establish deep pockets; the theories relating to the acid-base equilibrium and periodontal disease; salivary and serum calculus formation; stagnant anoxia, edema and cyanosis of the gingival tissues; periodontal therapeutics—a discussion of its main divisions including oxygen therapy, occlusal equilibration, treatment of the periodontal pocket; and necrotic gingivitis, its symptoms, pathology and treatment. Calcium metabolism with relation to the regeneration of bone will be discussed.

The application of the fundamental principles governing the treatment of periodontal diseases will be demonstrated in the clinic.

The subject of Radiodontia will be taught only with reference to its application to diagnosis and treatment of these conditions.

Registrants for this course will need to bring with them mouth mirror, pliers and scalers which they are accustomed to use.

#### *Operative and Preventive Dentistry*

The course in Operative and Preventive Dentistry will be under the supervision and direct instruction of Dean Arnold D. Mason, assisted by R. G. Ellis, D.D.S., B.Sc. (Dent.), L. F. Krueger, D.D.S., M. A. Cox, M.D., J. Kreutzer, D.D.S., B.Sc. (Dent.), and Miss D. F. Berry, M.A.

This course will stress pedodontia, including instruction in pre-natal care and methods used in the prevention of dental disease particularly

up to the age of five years. The principles of dental anatomy, histology and cavity preparation with reference to restorative procedures for older children will be studied, and the use of amalgam and inlays in making restorations. Casting techniques the latest methods of making models and the expansion of investments will be taught.

Registrants wishing to avail themselves of clinical practice will be required to bring their own operative instruments.

Applications should be addressed to:

Dean Arnold D. Mason,  
Faculty of Dentistry, University of Toronto,  
230 College Street, Toronto.

### Canadian Medical Protective Association

The value of the C.M.P.A. has for long been established and seems to be increasing year by year.

According to its Constitution the C.M.P.A. has certain general objects before it: (a) to support, maintain and protect the honour, character and interests of its members; (b) to encourage honourable practice of the medical profession; (c) to give advice and assistance to and defend and assist in the defence of members of the Association in cases where proceedings are unjustly brought or threatened against them; (d) to promote and support all measures likely to improve the practice of medicine. In pursuance of these objects the Association undertakes to assist in defending civil actions for damages for alleged malpractice in the practice of medicine and surgery, where such actions appear to the Executive Committee and to the General Council of the Association to be unjust, harassing or frivolous, or where it appears otherwise to be reasonable to afford the member whose conduct is impeached an opportunity of defending himself before a court of the law. The Association undertakes, subject to its by-laws, to pay the taxable costs of his defence reasonably and properly incurred exclusively on his behalf, together with reasonable and proper witness and counsel fees, and may assist in the payment of the whole or any part of damages, if awarded, and may assist in any appeal to a higher court from a verdict rendered. The great value of such service is sufficiently obvious.

Membership in the Canadian Medical Protective Association costs only \$5.00. The

C.M.P.A. is not an insurance company. The members do not receive a policy but are entitled to whatever assistance they may require. The financial statement shows that the reserves are more than adequate for its needs, more particularly when it is realized that by means of reinsurance the Association is protected against a greater loss than ten thousand dollars in any one year.—*Excerpt from Editorial, Canadian Medical Association Journal, Oct., 1937.*

### The Nation's Health Control Bill Japan

The home office has decided to submit to the next regular session of the imperial diet a bill providing regulations for the compulsory physical examination of the population from infancy up to 40 years of age. The principal object is to gather data on national health conditions. Measures, based on this, to expand the state health provisions will be devised. The home office and the war office are expected to go hand in hand in the way of the national health promotion campaign that was recently started. This bill is reported to be a first preparatory step toward completion of the army's national mobilization scheme. According to the draft plan, infants four months after birth will be ordered by the state to undergo a health examination at the city, town or village office and enrolled on the national health list. The primary schools will be in charge of the matter while children are attending schools. The health examination will be conducted every year for those who have finished the primary school and do not reach the conscription age, and for young women. For the others, the examination will be carried out every three years. Health cards will be prepared at the city, town or village offices, and detailed records will be kept concerning the health of every person. The administration of this project will be by the ministry of health, which is expected to be newly established in the cabinet.

The chief object of the 550 health centres which are to be newly established during this fiscal year is to give instruction in preventive medicine. The centres are to make the people health conscious through improvement of nutrition and the selection of wholesome food, in which the housewives are to be instructed;

hygienic clothing; sanitation in dwellings; enlightened treatment of pregnant women and of infants, and the prevention of tuberculosis, venereal diseases and parasitic diseases. The health centres will be established and maintained by the prefectures, the local governments, and the appointed greater municipalities. They will have, if necessary, branches in the country. There will be at least two medical experts, one pharmacist, one clerk and three women. The government will grant half the expense to the establisher for its foundation, and one-third the annual working expenses will be granted by the government. At the health centres any kind of treatment is free of charge.—*Journal American Medical Association* 9-11-37—(A.D.A. Press Release).

#### **International Dental Federation**

The Thirty-first Session of the International Dental Federation was held at Stockholm, August 9-15, under the presidency of Dr. W. H. G. Logan, of Chicago.

Opinion was in favour of publishing a new journal, to cost no more than one dollar in gold, which would include the matter now published in the *Bulletin*, articles on social dentistry and the papers presented at the Congress. It was agreed that the Bureau of the F.D.I. be instructed to request the London Congress Committee to investigate the possibilities with a view to the preparation of an International Dental Journal, to start publication in September or October, 1939.

#### **The Second Summer Seminar**

The second summer seminar for the study of orthodontics was held from July 17 through July 25, 1937, at the University of Colorado School of Medicine in Denver, Colorado.

Following the informal plan of the first summer seminar, material was presented relating to: Orthodontics with reference to the constitutional background of the patient—Bone pathology and its orthodontic significance—Case Analysis—Treatment Planning—Appli-

ance Construction—Radiography and Photography. Perhaps most significant was the impartial discussion and freedom from dogma which characterized both the presentations and discussion groups.

It was the expressed wish of those attending that the summer seminar be continued as an annual event and plans were made for a third meeting to be held in the summer of 1938 at a time convenient for those also wishing to attend the meeting of the American Society of Orthodontists.

#### **Hospital Insurance vs. Charity**

Group hospitalization is proving so popular throughout the United States that its subscribers have more than doubled since June of last year. There were 350,000 subscribers in June, 1936. Today there are more than a million persons in 60 communities protected by hospital insurance plans.

This group hospitalization plan simply means that the subscriber pays \$10 a year for a guarantee of 21 days of hospitalization without charge, and additional hospitalization at discount rates.

This is convincing proof that, given a way, the family of low income will find a place for hospital care in the family budget.—*New York Post*.

#### **A.D.A. National School Poster Contest**

The American Dental Association is sponsoring, for 1938, a National Poster Contest. Children above the third grade in all public and parochial schools are eligible to compete. Each state society, and through it, each component society is asked to sponsor a poster contest in their community. The winners of the component society contest will compete in the state-wide contest. All posters displayed at the state contest, whether they are winners or not, will be entered by the state dental society in the National Contest which will be held in October 1938, at the A.D.A. meeting in St. Louis.

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*One point of difference between a poor man and a millionaire is that one worries over his next meal and the other worries over his last.—Montreal Herald.*



# ... SECTION FRANÇAISE ...

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# Eléments d'Anatomie Dentaire Philosophique

par GASTON GUERARD

Docteur ès-Sciences Naturelles U.P.

Professeur d'Anatomie Dentaire Humaine et Comparée à l'Ecole Odontotechnique de Paris.  
Vice-Président de la Section d'Anatomie au VIII<sup>e</sup> Congrès Dentaire International.

(Extrait de la "Revue Odontologique".) Deuxième partie (suite).

C'EST pourquoi enfin si j'accepte qu'il y eut "évolution", je prétends que cette acceptation n'appuie en rien l'idée mécaniste du transformiste et qu'elle ne saurait donc infirmer la thèse que je défends, à savoir que la denture des Vertébrés inférieurs est une chose, et celle des Mammifères en est une autre. Et ce qui se passe dans le domaine de l'appareil tégumentaire se retrouve d'ailleurs dans tout l'organisme, partout nous voyons la forme exiger un développement particulier grâce auquel nous ne pouvons nous représenter l'organisation d'un animal comme le stade déterminé d'une évolution générale.

Le Professeur Retterer (1) dans son importante étude sur "*Les dents, leur origine et leur structure*", après avoir rendu justice aux recherches de Cuvier et combattu l'hypothèse des formes pré-établies, admet le principe de Lamarck et écrit: "La figure et la complexité des dents dépendent de l'influence du facteur mécanique et du sens des mouvements qu'exécute la mâchoire inférieure."

Certes, j'ai dit souvent la valeur réelle de cette formule, mais explique-t-elle quelque chose sur la *genèse* des organes qui nous intéressent? A ce dernier point de vue, je trouve en effet dans le procédé de Lamarck plus d'hypothèses que

(1) Au cours des travaux du VIII<sup>e</sup> Congrès Dentaire International j'ai eu maintes occasions de rappeler les conceptions de ce grand chercheur à qui l'Anatomie dentaire doit tant d'idées neuves.

d'observations rigoureuses et dans une étude récente présentée dans *La Revue Odontologique* (après avoir suivi l'histoire de la dent primitive, et décrit les étapes fonctionnelles de l'armure buccale), comme je me demandais en terminant quelles conclusions la *Biologie* pouvait tirer des enseignements que nous avons acquis, je me suis efforcé de montrer l'importance de la *morphologie biologique* dans les questions intéressant la structure de l'organe dentaire, et je terminais enfin par des conclusions dont les principales trouvent ici leur application et qui sont les suivantes :

1<sup>o</sup> Si nous envisageons la structure anatomique des différents modes de dentures, nous sommes frappés par la grande quantité de modalités utilisées pour la préhension, le broiement, l'attaque et la mastication alors que la quantité des *types d'organisation* est au contraire des plus restreintes. Pour expliquer cette observation, nous remarquerons que l'effort qui produit toutes ces variétés est un effort de conquête pour utiliser tous les moyens disponibles à l'entretien de la vie, les Marsupiaux deviendront rongeurs carnivores, herbivores..., des Primates acquerront des dentures de rongeurs, etc., il y a là *un effort dans le sens de l'accroissement des espèces et non dans le sens de transformation ou de perfectionnement. L'acquisition des formes dentaires nouvelles correspond, en un mot, à la multiplication des espèces et non à des changements de types.*

2<sup>o</sup> L'action du milieu agissant sur le système dentaire a donc pu aider à la création d'espèces nouvelles, elle n'a jamais aidé à la formation de types nouveaux. C'est pourquoi vouloir adapter le transformisme aux variations dans la structure des dents ne serait que généraliser des observations limitées.

Cette dernière prétention, ajoutons-le enfin, a eu pour résultat d'obliger les auteurs à recourir, dans leurs tentatives de phylogénèse générale, à des gradations

établies sur des schémas conceptuels souvent imaginaires.

L'importance attribuée par Lamarck et défendue par Retterer et Weidenreich de l'usage et du non usage des parties est réelle, je le répète, mais il ne faut pas oublier que cette lois est inconstante (j'ai cité des dents inactives et même nuisibles et qui atteignent un développement considérable), ensuite quand je conçois un mode de mastication, en un mot une fonction, je dois accepter l'existence préalable d'un organe pour la remplir, la fonction produira un perfectionnement ou une adaptation de la denture, elle ne la fera pas naître là où elle n'existerait déjà sous une forme première et génératrice.

Ce n'est pas tout, si nous examinons la mâchoire de l'homme, du chien, du cheval, etc., nous voyons qu'elle n'a pas changé biologiquement depuis des milliers de siècles, en un mot nous disons qu'elle est *fixée*. Or, comme les êtres issus de mêmes progéniteurs ne sont jamais absolument semblables entre eux, ils procurent ainsi, nous le savons, une *amorce* à la formation d'espèces nouvelles, pourquoi donc alors, et étant donné la variété des régimes et des circonstances, pourquoi n'obtenons-nous pas d'innombrables nouvelles formes de dentures si les preuves de Lamarck étaient générales? Il prétend que l'habitude et l'activité d'un organe dussent être la source de modifications dans sa structure, soit, les créodontes ancêtres des carnivores ont en effet acquis la carnassière (cette transformation toutefois se fait à l'intérieur d'un groupe et nous ne passons pas d'une série à l'autre), mais qu'aurait répondu l'illustre naturaliste si on lui avait demandé par quelle habitude la denture des Reptiles avait pu se transformer chez les Thériodontes? Le régime des carnivores? ce ne peut être cela, puisque les plus hautement spécialisés de ces derniers animaux appartiennent précisément à la classe des reptiles, et ont

gardé la denture reptilienne caractéristique, le régime carnivore ne leur ayant pas donné une denture spéciale comme cela se passe chez les Mammifères. En réalité, les exemples que nous pourrions obtenir en faveur de Lamarck ne touchent pas à "l'organisation", qu'un carnivore eût une denture plus forte, plus parfaite, cela ne change en rien sa place dans la nature; bref, les professeurs Weidenreich et Retterer ont raison d'accorder une place aussi importante à l'action mécanique dans la morphologie des dents, mais je ne pense pas qu'ils admettent la possibilité d'une dent *née sous* l'effort de l'animal désireux d'accomplir une fonction.

Pour ma part, l'influence mécanique intéressera la denture sur des détails, entraînera des différences de forme, *voire même de fonction*, mais il ne s'agira que de caractères superficiels, spécifiques, en un mot ce ne seront pas des caractères anatomiques. Il n'y aura jamais par le simple jeu de l'habitude *création totale* d'un nouvel organe *ajouté* à l'espèce et transmissible aux descendants du porteur. Il y aura restauration ou appoint apporté à une denture et c'est tout, et une telle circonstance enfin est tout à fait insuffisante pour relier toutes les dentures entre elles, et dire avec Lamarck (après avoir passé par les Vers et les Mollusques) que ces derniers engendrent les poissons, d'où sortent les Reptiles, lesquels donneront à leur tour les oiseaux et les monotrèmes d'une part, les mammifères de l'autre. Cette spéculation anatomique qui a engagé les auteurs s'intéressant à la morphologie dentaire comparée, à suivre la transformation des dentures à travers la série zoologique, offre donc pour une telle prétention une base insuffisante et trop peu sûre, et je crois plutôt qu'à l'origine des classes et des ordres, seules ont pu vivre les formes capables d'entrer dans l'association biologique contemporaine de leur apparition; la forme de la dent, dès qu'elle s'est montrée, a *marqué l'individu*

et l'a guidé vers son régime et c'est alors que sont intervenues toutes les causes invoquées par les auteurs et qui se manifestent effectivement dans les familles, les genres et les espèces.

Entre les grandes catégories, les classiques ont voulu mettre des formes vivantes alors que je suis obligé avec Sergi de recourir à des "germes d'attente", je n'ignore pas sans doute ce que ce dernier mot a d'indéterminé, mais il a du moins cette qualité de marquer ici les coupures et les interruptions qui existent entre les systèmes dentaires si nous passons de l'un à l'autre des groupes supérieurs de la systématique. Le Docteur Périer, de Genève, parle de découvertes à venir qui combleront ces vides, elles sont en tout cas problématiques et s'il est quelques exemples montrant des continuités, ceux qui nous ont été fournis n'appartiennent qu'à de petits groupes, familiaux ou génériques.

Quoiqu'il en soit de l'avenir enfin, il est un fait contrôlable dès à présent et qui montre, à l'égard des dents, l'impossibilité d'une évolution *régulière et mécaniste*. Nous ne voyons pas en effet se succéder à chaque époque des formes de dentures consécutives et régulièrement sériées, ainsi que le voudrait l'évolution mécaniste, c'est-à-dire des formes qui "*continueraient*" leur évolution, ce n'est pas cela du tout, et les formes de denture sont, pourrions-nous dire au contraire, à chaque étape géologique, coordonnées entre elles et en accord avec les associations biologiques du moment, elles renferment en un mot tous les degrés de complications nécessaires à la formation de l'ensemble des êtres vivants. Et c'est ainsi que nous assistons à une série de mondes successifs montrant des types dentaires morphologiques différents, "*Types dont la valeur est sans doute croissante, je le reconnais, mais dont chacun procure à l'époque où il domine, les formes essentielles que demande l'organisme tout entier.*"

Tel est, me semble-t-il, la véritable marche de l'évolution de la denture des Vertébrés, il n'y a pas enfin souci d'une évolution générale, mais il y a des formes adaptées aux fonctions qui devaient à chaque moment aider à remplir toutes les places demeurées libre dans la Nature.

#### Résumé et Conclusions

Après avoir suivi l'histoire de la dent primitive et observé les étapes fonctionnelles de l'armure buccale, si nous nous demandons enfin quelles conclusions la *Biologie* peut tirer des enseignements qui précèdent, nous serons surtout frappés par l'importance de la *Morphologie biologique* dans les questions intéressant la structure de l'organe dentaire.

La denture d'un être vivant n'a qu'une durée limitée à celle du porteur, mais par contre la *forme* (1) qui appartient à cette denture connaît une durée illimitée et peut être d'une longévité considérable. C'est donc principalement l'examen de cette *forme* qui doit nous permettre d'établir des différences réelles ou de fixer des rapprochements, et c'est à elle que nous allons nous attacher pour l'élaboration de nos conclusions:

1<sup>o</sup> La forme d'une dent n'intéresse pas seulement sa configuration mais aussi son activité fonctionnelle, ce qui veut dire que *forme* et *fonction* sont inséparables, adaptées et toujours *suffisantes* à une espèce, il n'y a pas en effet de fonction dentaire rudimentaire exigeant une dent rudimentaire. Le Poisson possède une simple dent préhensible quand elle suffit à son organisation. Mais il est en outre nécessaire d'ajouter que la *finalité* n'est pas toujours ici obligatoire, et des exemples (Babroussa) nous montrent parfois absence de fonction de l'organe ou désordre, nous devons donc à notre première remarque ajouter encore celle-ci: tout organe ne possède pas nécessairement une fin.

2<sup>o</sup> Si nous envisageons la structure

anatomique des différents modes de denture, nous sommes frappés par la grande quantité des modalités utilisées pour la préhension, le broiement, l'attaque et la mastication alors que la quantité des *types d'organisation* est au contraire des plus restreintes. Il y a là un effort dans le sens de l'accroissement des espèces et non dans le sens de leur transformation ou de perfectionnement.

3<sup>o</sup> La plupart des formes sont indépendantes les unes des autres, chaque forme représentant un type fonctionnel propre (dent préhensible, dents des rongeurs, ruminants, carnivores, etc.). Et nous avons rarement rencontré, sauf à partir des familles, un type morphologique nouveau réalisé par une simple modification ajoutée au type précédent. D'ailleurs, plusieurs types d'organisation s'étant formés presque en même temps à l'apparition des premiers vertébrés, des créations organiques ont eu lieu en même temps, chaque armure buccale a donc correspondu à un type morphologique propre et spécial.

4<sup>o</sup> Une dent n'est pas un organe indépendant et isolé, c'est une modification locale de la muqueuse buccale, intimement liée à la structure générale, et chaque fois que la fonction dévolue à l'organe dentaire le modifie, on l'augmente d'un nouvel attribut, de nouvelles dispositions anatomiques se manifestent en même temps; c'est de la sorte par exemple que la denture complète est contemporaine de la classe des Mammifères. Chaque type nouveau présente donc des caractères propres et qui ne sont pas des caractères de transition, la dent chez les Vertébrés inférieurs est surtout un crochet, chez les Mammifères c'est un organe de mastication. Nous pouvons donc dire que lorsque se réalise la forme de l'être, une denture convenable apparaît en même temps, et la forme de la dent agit sur la forme des mâchoires,

(1) Par ce mot nous n'entendons pas seulement la configuration extérieure mais aussi les corrélations observées.



les muscles masticateurs, celle des os de la tête, etc., ce qui confirme cette opinion que l'être n'a d'explication qu'en lui-même et n'est pas que la simple étape d'une évolution générale.

5° L'action du milieu agissant sur le système dentaire a pu aider à la création d'espèces nouvelles, elle n'a jamais aidé à la formation de types nouveaux. C'est pourquoi vouloir adapter le transformisme aux variations dans la structure des dents ne serait que généraliser des observations limitées.

6° Enfin le passage graduel d'une denture à l'autre est impossible entre des types d'organisation différents puisque chacun de ces derniers n'est viable qu'en raison de la corrélation de ces organes.

L'étude comparée du système dentaire ne saurait donc venir en aide à la théorie de la descendance telle que la conçoit le transformisme total, puisque chacun des systèmes examinés apparaît comme un état d'équilibre *morphologique* qu'il ne modifie que très peu une fois obtenue sa constitution essentielle.

## Obturation Chirurgicale des Dents en Une Seule Séance\*

par A. JOYEUX  
Chirurgien-Dentiste à Chartres

LE but de ce travail est de démontrer qu'en s'inspirant de la doctrine chirurgicale, il est possible de précéder à l'obturation de toutes les caries dentaires *vives ou infectées*, en une seule séance, en conservant dans le premier cas, la vitalité de l'organe, en assurant dans le second une antisepsie perpétuelle, mettant le malade à l'abri de toute récurrence de l'infection.

Nous avons déjà traité ce sujet à plusieurs reprises et avons fait en avril 1930 une communication à la Semaine Odontologique qui nous a valu à ce moment un volumineux courrier. Les résultats communiqués par nos adeptes confirmant pleinement nos théories et notre expérience personnelle remontant à vingt années de pratique, nous n'hésitons pas à soumettre le fruit de nos travaux au verdict de la Profession.

### *Conception chirurgicale*

Quelle que soit l'intervention pratiquée, nous retrouvons dans tout acte chirurgical trois phases invariables :

- 1° Anesthésie du sujet.
- 2° Intervention chirurgicale.

### 3° Régénération des tissus.

Il est de toute évidence qu'en pratiquant de la même façon pour une intervention dentaire, nous devons obtenir le même résultat : C'est ce que nous allons démontrer.

### *Histologie de la dent*

Avant d'exposer nos théories et l'application de notre méthode, il est nécessaire de faire un tour rapide dans le domaine de l'histologie dentaire pour en mieux comprendre le "mécanisme".

Si, nous examinons la coupe d'une dent au microscope ou si nous en possédons la magistrale description faite par Retterer et reprise par Boissier, nous constatons—sans pénétrer dans les détails—que le paquet vasculo nerveux pénétrant par l'apex apporte ses principes nourriciers et vitaux à notre organe composé, pour le principe osseux, de trois sortes de cellules.

Cémentoblastes, odontoblastes, adamantoblastes.

Ces cellules, et particulièrement les deux premières, sont composées d'un noyau protoplasmique et émergent des

\*Nous publions cet article sous toute réserve n'ayant pas expérimenté la méthode.

prolongements également protoplasmiques qui, s'anastomosant les uns aux autres, forment dans la dentine un réseau fibrillaire—ce sont les fibrilles de Tomes—évoluant du centre de la dent vers sa périphérie, et recouvertes ensuite par la couche adamantine, qui allant en s'épaississant du collet au bord libre de la dent forme l'émail.

Dans ce schéma, nous avons volontairement séparé les fibrilles de Tomes qui, en réalité, forment un réseau beaucoup plus serré.

Par ce qui précède, nous nous rendons compte que la dent est un petit organe bien vivant, possédant, comme tout organe du reste : une circulation sanguine d'apport (artère).

Une circulation de retour (veine).

Une vitalité tactile et sensitive (filet nerveux).

Nous n'apprenons rien à nos Confrères en leur décrivant ceci, mais où nous sommes stupéfait c'est de leur voir introduire dans ce centre vital passagèrement atteint consécutivement à une carie, un agent mortificateur qui va commettre de terribles méfaits !!!

#### *Dévitalisation*

Comment ! mes chers Confrères, consentez-vous encore à employer dans vos cabinets ultra-modernes, des méthodes remontant à la plus haute antiquité ? des méthodes périmées, qu'un enseignement officiel consacre malgré ses méfaits . . . et que des considérations intéressées encouragent.

La chirurgie moderne envisage-t-elle la dévitalisation et la momification d'un organe ? Pourquoi en est-il autrement pour la chirurgie dentaire ?

En concevant la mortification d'un petit organe possédant une vitalité propre, en transformant cet organe en un cadavre embaumé, soit, on commet une véritable hérésie.

De quelque façon que l'on puisse envisager l'application d'un agent mortificateur *quelqu'il soit*, le fait matériel

n'en subsiste pas moins. On détruit une vitalité, alors que le devoir des chirurgiens — et ne sommes-nous pas les chirurgiens des dents — est précisément de mettre tout en œuvre pour obtenir un résultat opposé !

Enfin, et comme dernier argument, nous posons la question suivante :

En détruisant la vitalité d'un organe par l'application d'un caustique, pouvons-nous savoir exactement où s'arrêteront ses ravages ? ?

La sensibilité est détruite par la mise à mort de l'organe, soit, mais l'action du caustique, trouvant une voie sur la pulpe et le paquet vasculo nerveux ou papille dentaire, poursuivra son effet destructeur sur les fibrilles de Tomes, sur le protoplasma des noyaux cellulaires et provoquera des nécroses dans l'intérieur des tissus cémentaires et dentinaires inaccessibles à la résection.

En outre, comme ces pansements, ayant rapidement aboli les sensations douloureuses, peuvent parfois être conservés un temps indéterminé, le processus de désorganisation suivra le paquet vasculo-nerveux, franchira l'apex et provoquant une nécrose au delà du foramen favorisera la production de kystes ou granulômes.

Ne cherchons pas plus loin la cause de ces accidents que l'on met trop souvent à tort, sur le compte d'une infection . . . dont on ne comprend pas très bien le début.

#### *Application de la méthode*

Nous avons dit que cette méthode comportait trois phases, exactement comme dans toute intervention chirurgicale.

##### *1°) Anesthésie*

Les méthodes d'anesthésie sont trop nombreuses aujourd'hui pour essayer de les décrire ; L'essentiel est d'obtenir une insensibilité suffisante de la pulpe pour permettre l'énucléation de toute la partie atteinte, dans tous les cas de carie pénétrante vive au troisième degré.

Celle qui nous donne les résultats, les plus certains, les plus réguliers consiste à

pratiquer, autour de la dent à traiter une injection de un demi-centimètre cube d'une solution de Novocaïne à 2 %. Mais et surtout sans aucune addition d'adrénaline. Nous précisons qu'une seule piqure dans l'anneau fibro muqueux de la solution tiède de chaque côté—lingual et vestibulaire—est largement suffisante.

Attente de deux bonnes minutes avant d'intervenir.

Pendant cette attente, on pourra préparer une petite portion de la pâte iodo Tannique Tano en incorporant de la poudre au liquide jusqu'à consistance de mastic de vitrier.

#### 2°) Intervention

C'est la phase la plus délicate de l'opération, il ne faut pas craindre de l'entreprendre franchement, sans brusquerie, de la façon suivante :

*Premier temps* : Après avoir choisi une grosse fraise correspondant le mieux possible à la profondeur de la cavité, fraise neuve et coupant très bien, on procédera à la résection de toute la dentine ramollie et de toute la surface nécrosée.

Irrigation à l'eau tiède.

*Deuxième temps* : On prendra alors une fraise stérilisée, grosseur environ de la chambre pulpaire et sans hésiter mais sans appuyer exagérément, on effondra cette dernière sans que le malade éprouve autre chose qu'une sensation désagréable . . . mais de très très courte durée.

Hémorragie immédiate, irrigation à l'eau bouillie et introduction dans la cavité d'une boulette de coton stérilisé.

En attendant la fin de cette courte hémorragie on prépare une petite quantité de ciment définitif à consistance claire.

*Troisième temps* : On retire la boulette stérilisée, on irrigue à nouveau à l'eau bouillie, puis on assèche la cavité à l'air chaud. La pulpe apparaît dans le fond de la cavité.

Avec une petite boulette de coton au bout des précelles, on porte alors dans le fond de la cavité une portion de la pâte,

sur une épaisseur d'environ 2 m/m en tassant légèrement. On jette, naturellement, la boulette de coton laissée sur l'instrument, on assèche encore à l'air chaud et on remplit la cavité avec le ciment, à consistance de mastic sans tasser exagérément.

On laisse sécher quelques minutes et... l'obturation est terminée.

Si l'on veut pratiquer une obturation à l'amalgame, on emplit la cavité aux deux tiers, on laisse sécher et après lui avoir donné une forme rétensive, on procède à l'obturation.

#### Régénération des tissus

Nous avons décrit les deux premières phases de notre intervention et comme dans toute opération chirurgicale, c'est la nature, aidée dans la circonstance par la pâte iodo Tannique qui va faire le reste. Voyons de quelle façon.

La composition de notre pâte va d'abord nous donner une première explication.

1° Poudre : Cette poudre est un composé complexe qui renferme les principes suivants :

Iodoforme, Tanin, Novocaïne, Antipyrine et Oxyde de Zinc.

Le liquide est un Eugénate déterpéné traité par l'alcool.

Les travaux de Girard et Lemoine ont démontré que l'Iodoforme associé au Tanin formait un Iodo Tannate dégageant perpétuellement de l'Iode à l'état naissant. Nous réalisons de ce fait une antisepsie constante.

Le principe anesthésique renforcé de l'action analgésique et vaso-constrictive de l'antipyrine apporte une action anesthésique, analgésique et vaso-constrictive sur le moignon pulpaire, rendant son application indolore.

Enfin, le principe Oxyde de Zinc, associé à l'Eugénol privé par traitement de ses propriétés irritantes, forme un Eugénate de Zinc, cristallisant d'abord la pâte et provoquant ensuite son durcissement lorsque l'action thérapeutique des

composants précités a produit son effet.

Nous recommandons *formellement* de ne jamais tamponner la cavité avec alcool, éther, etc... avant d'introduire la pâte.

Un simple lavage à l'eau bouillie suivi d'un assèchement à l'air chaud après cessation de l'hémorragie est à observer scrupuleusement. Ceci pour éviter, qu'un liquide irritant vienne provoquer une réaction post opératoire.

Dès que la pâte se trouve en contact avec la pulpe, ses composants agissent de la façon précitée.

L'action thérapeutique produit une action en surface, il se forme une sorte de kératinisation de la couche superficielle des cellules du moignon; puis la pâte durcissant, l'action en profondeur se trouve modérée, les cellules de la couche sousjacent ne subissant aucune transformation physiologique, les échanges continuent et la vitalité subsiste.

Au cours de nos vingt années de pratique, il nous est arrivé de revoir des dents traitées de cette façon depuis plusieurs années et lorsqu'il nous a été donné d'intervenir à nouveau pour la pose d'une coiffe par exemple, nous avons retrouvé la même sensibilité pulpaire en approchant de cette région.

#### *Obturation des caries infectées*

Nous allons procéder exactement de la même façon, en nous inspirant encore de la doctrine chirurgicale.

Il n'y a pas lieu d'envisager d'anesthésie puisque l'infection s'est chargée de détruire la vitalité.

En chirurgie générale, en présence d'un cas de nécrose osseuse, le chirurgien resèque largement les parties infectées et... le travail de régénération fait le reste.

Nous allons agir de la même façon :

*Premier temps.*—Préparation du champ opératoire.

Nous prenons le cas typique d'un beau quatrième degré répandant une odeur putride dûe, nous le savons aux anaérobies.

Nous commençons par pratiquer une

énergique désinfection avec le seul liquide qui va réduire les anaérobies à néant par suroxygénation — l'eau oxygénée à cent volumes—en introduisant une boulette de coton imbibée dans la cavité et en l'y maintenant deux minutes environ.

On pourra, si l'on en éprouve le besoin, renouveler cette opération une ou deux fois.

*Deuxième temps :* Avec grosse fraise, on procède à la résection de tout le tissu nécrosé jusqu'à ce que l'on rencontre une zone saine produisant sous la fraise ce petit "cri dentinaire"... cher à notre regretté maître Cruet.

Ce premier acte terminé, on irrigue, on prie le malade de se laver la bouche et... on se remet en place pour accomplir la deuxième partie du deuxième temps.

Après un lavage à l'eau oxygénée à cent volumes sur une boulette de coton, on procédera à l'évacuation des canaux et à leur agrandissement par des forets de Beutelrock ou de Gâtes trempés dans le liquide *Tano*.

Il faudra surtout éviter de perforer l'apex pour ne pas créer de foyer infectieux dans cette région.

Les canaux complètement vidés et agrandis, seront après avoir été asséchés, bourrés de pâte *Tano* molle, soit avec un bourre-pâte, soit par pression. Puis ce qui reste de la chambre pulpaire sera bourré de pâte un peu plus dure.

Ensuite, on peut recouvrir de ciment définitif.

Toutefois, il convient de faire une réserve.

Lorsque la Radiographie aura démontré l'existence d'un kyste ou d'un granulôme péri-apexien, nous conseillons de traiter ces affections par... les méthodes spéciales à ce genre de traitement, nous n'avons pas la prétention d'apporter ici la panacée universelle.

#### *Traitement des dents de lait*

Notre travail ne serait pas complet si nous n'avions pas envisagé le traitement si décevant des dents de lait.



L'obturation plus ou moins solide étant subordonnée au temps dont ces dents doivent subsister et les accidents infectieux se produisant lorsque le moment de l'avulsion approche, nous avons toujours obtenu un excellent résultat en introduisant dans la cavité dès la première séance, une portion de pâte sur une boulette de coton laissée en place.

L'enfant, mis en confiance par cette première séance au cours de laquelle il n'a pas eu à subir le redoutable contact de la fraise, son cauchemar, revient à la seconde séance sans aucune crainte au bout de quelques jours.

En retirant la boulette de coton, on constate que la pâte a tapissé le fond de la cavité et forme une couche antiseptique dure et protectrice.

Il est loisible de pratiquer l'obturation, après avoir fait quelques points de rétention.

#### *Scellement des bridges*

Il arrive parfois que l'on désire poser un bridge quelques jours à l'essai. Dans ce cas, il sera bon de placer à l'intérieur des coiffes une petite portion de pâte pour éviter toute fermentation et infection.

Enfin, un peu de poudre Tano mélangée à la poudre du ciment donne à celui-ci un très appréciable pouvoir bactéricide.

#### *Conclusion*

Nous pensons avoir exposé d'une façon nette, par quelle méthode il est parfaitement possible de pratiquer l'obturation chirurgicale des dents, et nous souhaitons que nos Confrères veuillent bien en faire l'essai.

Si le praticien doit par des recherches continues, par des perfectionnements successifs améliorer ses méthodes de travail, il lui appartient de réserver sa faveur à celles qui, le plaçant résolument à la tête du progrès, lui permettront d'opérer d'une façon rationnelle avec le maximum de sécurité.

Il devra, s'il adopte cette méthode chirurgicale, s'efforcer de donner de nouvelles habitudes à ses malades en leur faisant comprendre qu'une intervention envisagée de cette façon est comparable à une intervention chirurgicale, et que si le malade n'hésite pas à honorer son chirurgien qui l'opère vite et bien, il doit en être de même pour lui.

Les malades se rendant parfaitement compte de la valeur scientifique de l'intervention qui leur évitera une notable perte de temps, en de nombreuses visites, sauront vite en apprécier les avantages, la réputation du praticien saura vite s'établir et il ne tardera pas à en recueillir les bienfaisants effets.

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## Nouvelles de Sociétés Dentaires de la Province

par GERARD DE MONTIGNY, D.D.S., B.A., M.S.D.

### *Société Dentaire de Montréal*

*Séance de septembre 1937*

M. le Docteur J. A. Pinault, professeur de prothèse à la Faculté de Chirurgie Dentaire de l'Université de Montréal, projetait le film cinématographique intitulé, "Articulation intra et extra-orale."

Ce film préparé par M. le Docteur Pinault, sous les auspices de l'Association

des Anciens de la Faculté de Chirurgie Dentaire, montre les différentes phases de la prise d'articulation chez les édentés pour la fabrication des pièces de prothèse.

M. le Docteur Pinault, en outre, mit en lumière les principes qui règlent l'articulation chez les individus possédant leurs dents naturelles. Le conférencier fut présenté par M. le Docteur A. Plessis-Bélair, président de la Société

Dentaire de Montréal et remercié par M. le Docteur Conrad Archambault, président du Collège des Chirurgiens-Dentistes de la Province de Québec.

*Séance d'octobre 1937*

L'invité d'honneur était M. le Docteur J. N. Roy, professeur à la Faculté de Médecine de l'Université de Montréal et chef de service d'oto-rhino-laryngologie de l'Hôpital Notre-Dame.

M. le Professeur Roy avait intitulé sa communication, "Chirurgie plastique de la face en rapport à l'art dentaire." Le conférencier fit voir à l'assistance les prodiges que peut réaliser la chirurgie esthétique chez les mutilés faciaux de la vie civile et de la guerre.

La causerie porta surtout sur la labioplastie (la réparation des lèvres) où le chirurgien plastique a besoin de la collaboration du dentiste pour que celui-ci lui fournisse une base solide pour l'édification des lèvres. Le dentiste, à son tour, a besoin de l'assistance du chirurgien esthétique quand il s'agit de greffer un fragment périostéal dans une mâchoire fracturée.

M. le Docteur Roy finit sa conférence en appuyant sur l'effet désastreux produit sur le moral de son porteur par une figure mal conformée. M. le Docteur Lucien Reeves, vice-président de la Société et M. le Docteur Ernest Charron, chef de service au département de Stomatologie à l'Hôpital Notre-Dame présentè-

rent et remercièrent l'invité d'honneur.

*Séance de novembre 1937*

La conférence du mois de novembre traitait de dentisterie opératoire et M. le Docteur J. W. Morton, D.D.S., membre du Montreal Dental Club, entretint les membres présents d'"Obturations d'amalgame."

Le conférencier exposa clairement les principes orthodoxes qui doivent gouverner la préparation des cavités, la manipulation de la substance obturatrice, son insertion et son polissage.

En plus M. le Docteur Morton fit part de constatations personnelles sur le brunissage de l'amalgame. "Cette pratique devrait être condamnée, parce qu'elle tend à repousser vers les bords (qui sont les endroits les plus friables de l'obturation) le surplus de mercure de l'amalgame."

M. le Docteur Morton fut présenté à l'assemblée par M. le Docteur Gérard de Montigny, secrétaire de la Société et remercié par M. le Docteur Jacques Lantier, chef de clinique de dentisterie opératoire à la Faculté de Chirurgie Dentaire de l'Université de Montréal.

*Séance de décembre 1937*

M. le Docteur G. V. Morton, professeur à la Faculté de Chirurgie Dentaire de l'Université de Toronto, présentera une communication, ayant pour titre: "Developing and Maintaining a Successful Dental Practice."

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## *Le IVème Congrès des Dentistes de Langue Française de L'Amérique du Nord*

Ce congrès aura lieu au début de juin. Ceux qui désireraient présenter des travaux et des cliniques, sont priés de se mettre en relation avec le Docteur Paul Geoffrin.

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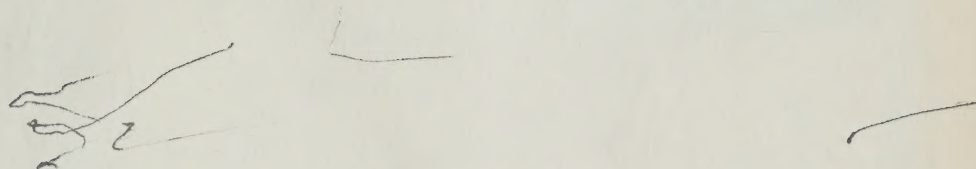
### *In Memoriam*

Le 17 novembre dernier est décédé le Docteur G. A. Bélanger à l'âge de 50 ans. Nous prions la famille du défunt d'accepter nos plus sincères sympathies.









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